THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

Perfect Agriculture is the true foundation of all trade and industry.—LIEBIG.

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For the Farmers' Cabinet.

Curious discovery of a Guano Island.

TO THE EDITOR,—I send you from Lifford's Baltimore Commercial Gazette, into which it was copied from Bell's London Messenger, a curious account of the discovery of a *Guano island*, on the coast of Africa.

From the little that I have heard, and that little especially from Commodore T. Ap. Catesby Jones, the *African* is not esteemed so strong a fertilizer, as the *Peruvian Guano.* Commodore Jones brought home, for gratuitous distribution, a small quantity of the latter, and gave me, with a portion of it, a brief memoir on its nature and uses, which shall be published. The Commodore took some to his estate near here, in Fairfax county, Virginia, and took occasion privately, to spread a little of it on some rows of his neighbour's corn. The good farmer soon had his attention attracted by the deeper green colour and more vigorous growth of these rows, and was much "struck up," as Jack Downing said, at this unaccountable difference. This is strange doings, said he, it is marvellous enough. At last the Commodore, after enjoying the joke, unravelled the mystery, as many other mysteries might be, if *one had the key!*

I. S. S.

Washington, D. C., July 8th, 1844.

WE are indebted to the *Glasgow Herald*, for the following interesting account of the discovery of this valuable manure on the coast of Africa. The narrative presents a striking illustration of the enterprise of the British merchant, and which, in this, as in numberless other instances, will doubtless result in a great national benefit.

According to the observations of Captain Farr, of the Ann, of Bristol, who had the honour of bringing last year, the first cargo of African guano to Great Britain, the island of Ichaboe—in which the quality is of a superior kind—is situated in 26° 19' of south latitude, and 14° 50' of east longitude, four days' sail north of the Cape of Good Hope, and 14° south of the Portuguese settlement of Benguela. It is a small rocky islet, about two and a half miles from the mainland of Africa, on which, at a distance of half a dozen miles, is a native settlement, and from the inhabitants giving the name of Ichaboe to the island, it has been retained by the same title in our own language. The manner in which the guano treasures on

this coast were opened up to the enterprise of British merchants, is both curious and interesting, and the following recital of it is, we believe, the correct one. An American trader having observed the interest which the importation of Peruvian guano was creating in Britain, was reminded of the circumstance that he had seen large deposits of a similar substance on the coast of Africa, and he published a short narrative of his observations in an American journal. This account fell under the notice of an English captain, who transmitted it to his relatives in Liverpool, and by them an expedition of, we believe, five ships, was fitted out in the close of 1842, for the purpose of being loaded with the African guano for the British market. The instructions, however, which were given to the masters must have been of an imperfect kind, for four of them returned without having succeeded in the object of their search, and the fifth, viz: the Ann, was nearly in the same position, when accident revealed the El Dorado, which was destined to exert such a potent influence in fertilizing our soil. Captain Farr happened to be at Cape Town, and one morning stepped into a coffee-room for breakfast, and while partaking of his repast, entered into conversation with the master of an American whaler, to whom he explained the regret he felt at being likely to return to England, without being able to fulfil the object of his mission. The American stated that he had been on shore on some islands of the exact description which the other was in quest of; and gave Captain Farr such information as enabled him to find out the island of Ichaboe, and take the first cargo from a deposit which may have been in the course of accumulation from the earliest ages in the world's history. With this cargo he sailed for England, and having put in at a port on the coast of Ireland, in July, 1843, he there found instructions awaiting him, which directed him to proceed to Dumfries, and unload: and he accordingly proceeded to Carsethorn, on the Solway, where the Ann was discharged, and the guano carried to Liverpool in lighters. Notwithstanding the secrecy with which these proceedings were managed, some hints respecting them reached the ears of the firm of Alexander & John Downie, of this city, who despatched their manager, Mr. Moncrieff, with the view of obtaining such information as would open the African guano stores more generally to British industry. A negotiation was accordingly begun at Dumfries, and terminated at Bristol, the result of which was that Captain Farr agreed to proceed again to Ichaboe, and at the same time point out the way to a fleet which was despatched by Messrs. Downie, with sealed instructions, in the autumn of last year. Already several of these ships have arrived in Scotland, while one of them has discharged a cargo in the West Indies, and the matter being no longer a secret, a number of vessels were, at the date of the last advices, loading at Ichaboe for various ports in Great Britain. Guano is also obtained at Angra Pequena, 40 miles south of Ichaboe, but it is not by any means, held in such high favour as the product of the latter. At the time of Captain Farr's first visit, the island was covered with penguins, gannets, &c., but principally the former, in numbers which altogether defied calculation. They seemed to have no acquaintance with, nor fear of man, and in fact, offered a resistance to his encroachment on a domain which had been peculiarly their own for thousands of years. Since the crews of so many ships, however, were located at the island, the birds have almost entirely deserted their former territory, and retired to fulfil the purposes of their nature to more remote and inaccessible shores. The specimens of the penguin from Ichaboe, which we have seen, are about two feet in height, and as a great portion of their time is spent in the sea, they are furnished with small flaps or paddles, instead of wings, which enable them to progress through the water with great velocity, though they are unable to fly. The female lays and sits upon one egg at a time, and a hole scratched in the deposit subserves all the purposes of a nest. In this way a succession of incubations go on for several months in the year, the young bird making its way to the sea as soon as it is able. It is the opinion of the seamen, that vast numbers of them never reach their destined homes in the waters, but are crushed to death in their progress to it, by the dense battalions of birds which have almost to maintain a struggle for bare standing room; and in this way the guano heaps are increased, as well by the bodies of the birds as by their droppings. The bodies of seals are also found on the surface of the guano deposits, which leads to the belief that they may occasionally have taken shelter there from a storm or hurricane, and having been overpowered by the potency of the ammoniacal vapor, have been unable to return to the water, and died where they lay. The guano which is brought to this country, is found under a loose covering of decayed birds, recent dung, &c., and is so firmly imbedded, that it requires to be dug out by the laborious operations of the pick-axe. When thus disengaged it is put into bags, and

transferred by a sort of rope-ladder from the island to a boat, which lies at the outer edge of the surf, and from thence it is daily emptied into the hold of the vessel, which is anchored at a short distance. Ten men will lift about fifteen tons per day, but the operation is a very laborious one, and the sun is so powerful that few of the crews escape without having their faces and hands blistered, so that the outer skin is peeled off. When Captain Farr left Ichaboe, he estimated the guano deposit on that island alone, to extend one thousand feet in length, by five hundred in breadth, with an average depth of thirty-five feet, containing, perhaps, from seven hundred thousand to eight hundred thousand tons. It is evident, therefore, that this supply will soon be exhausted in fertilizing the soil of Great Britain and her dependencies, but it is to be hoped that vast stores of it yet exist, which have hitherto never been disturbed by man. On this subject we quote the following statement from the *South African Commercial Advertiser*, published at Cape Town, in January last:—

"On the rocky headlands, or on the rocky and unmolested islands on the west coast, both within and beyond the boundary of this colony, where the sea-fowl from a vast expanse of open ocean come to breed, enormous masses of this manure have recently been discovered; and it seems probable that all the way up the coast into the Gulf of Guinea, and beyond it, similar treasures await the agriculture of the world, by which means the sea will render back to the land much more matter fitted to form organized, that is, vegetable and animal substances, than the rivers carry down into their depths, or the fleets of the nations deposit in their course over its surface."—*Bell's Messenger.*

For the Farmers' Cabinet.

Galvanic Experiments on Vegetation.

By Wm. Ross.

To the Editor,—I have been exceedingly interested in the following paper, which I lately came across in the New York Farmer and Mechanic, and cannot help believing it will be well worth its room in the Cabinet. Truly may we ask what are we coming to, and what will be the next achievement in practical science? One day we are astonished by the transmission of messages over a track of fifty or a hundred, or a thousand miles, in the twinkling of an eye, and answers to them returned with the same rapidity—and the next we are gravely assured that the seeds may be sown, and the crop grown for a salad while we are discussing other parts of a dinner!

At a meeting of the New York Farmer's Club, on the 2nd ult., it was stated that the wheat in Dutchess county was sadly injured by "a little yellow worm in the head of the wheat," which destroys the grain. It was also reported at the Club, that a field near Astoria, "was injured by a fly—not the Hessian—a small one, scarcely discernible, lodged in the capsule of the wheat, and a little yellow worm, the product of the fly." The crop had been treated with a dressing of poudrette, and had consequently "grown with so much vigor, as in good measure to escape from damage." It is said further, that a disease similar to that which is threatening to destroy the buttonwood tree, not only in this country, but also on the continent of Europe, and in the Azores, has in some places attacked the white oak, and a suggestion is thrown out, that it may be with the sycamore, as it has been with other trees: it may have seen its day—its race may be about to run out.

The electrical experiments detailed below, in hastening vegetation, are certainly very curious. Y. Z.

Sir,—At your request, I send a concise account of the few experiments I have made on the application of electricity to vegetables. They have been but few in number, although at present they may be more interesting, from the fact that very recent discoveries have rendered the use of this subtle, mysterious agent, more or less advantageous in many of the arts.

My attention was first called to the subject, by reading in some periodical—I believe one of the earlier volumes of the Gardener's Magazine—of an experiment said to have been performed at a dinner given by the Marquis of Anglesea, of the following nature: The statement was to the effect, that the seeds of cress—*lapidium sativum*—were sown in a glass vessel at the time the guests sat down to dinner, and that the crop from these seeds was served to them in the salad! The seed was sown in a soil formed of clean sand, mixed with some black oxide of manganese and table salt: the whole was moistened with dilute sulphuric acid, and electricity applied. The manner in which this agent was generated, or used, was not stated; but even without it, we all know that cress seed so treated, will germinate in about three hours, though the seed leaves will not be fully developed in less than five hours after sowing. Cress, when used as salad, is always taken in the seed leaf; and unless we believe that the dinner was pro-

longed on purpose, the application of electricity must have accelerated the growth in a very rapid manner.

Many observing farmers will, no doubt, have noticed that vegetation proceeds more rapidly after a thunder storm than after one which shows no electrical phenomena; and we find, on examining the various formation of the parts of plants, that they are well adapted for the passage of electricity through them, either from the earth or the atmosphere. Witness the points and serratings, as well as the hairs and down on the leaves, all good conductors, and calculated for affording it a silent and easy passage. That this is the case, any one may satisfy himself by a very simple experiment. Charge a leyden jar either by mechanical or chemical electricity—for both are the same, though excited in a different manner—then stick a wire in the ground near a plant, having the upper end pointed; hold the knob of the jar near, but not to touch, the edge of one of the upper leaves, and let the outer coat of the jar be within an inch of the upper point of the wire in the ground. In a few seconds the whole of the charge of the jar will be silently drawn off through the plant, and the outside coating will have received its compensation through the pointed wire from the ground, the equilibrium of the jar being restored without a spark or any other perceptible effort. Were the knob of the jar to touch the leaf, and the outer coating brought within what electricians call the "striking distance," a spark would pass, which, were the plant of a very juicy nature, as the cucurbita tribe, the shock would burst the vesicules, and the plant would die. A ligneous plant, however, will bear very strong shocks, apparently with impunity; yet, a repetition would, sooner or later, rupture its vessels also.

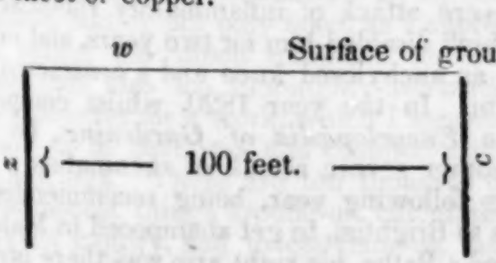
My first experiment was on some melon plants, in 1842. Only a few plants escaped the fly: through them I passed a shock from a jar containing a coated surface of fifty inches—in short, a pint jar—and the result was, they were all killed the same day. On the afternoon of the same day, I planted some cucumbers, mixed some salt and manganese in the hill, which was moistened with very dilute sulphuric acid, and a shock passed through each hill. On the following afternoon, three out of the four hills, were up, and on the next morning the whole were up, with most of the seed leaves spread open: by the eleventh day, the plants had two rough leaves, and as the day was very warm and dry, I soaked the hills with water very slightly acidulated with sulphuric acid, about one quarter of an ounce to a gallon. I then gave some plants in *each* hill a shock, leaving only two in each, and to these I gave a silent charge. Those which received the shock all died, while the others continued as thrifty as before, till the 24th day, when I moistened the hills with pure water, as they were then beginning to open their blossoms, passed a silent charge through two hills, and left the others. The first few blossoms were all males; no fruit blossoms appeared, or rather opened, until the 28th day, when the four hills were moistened with acidulated water, and a silent shock passed through one hill only, the others having none. I was at this time from home a few days, and on my return I found two cucumbers on the hill which received the last charge, about five inches long and one and a half in diameter, which were cut and eaten. This was on the 37th day after planting, and the flavour could not be said to be any thing different from that of the same variety—white spine—grown in the usual manner. I found that, during my absence, my boys had taken the other hills under *their* charge, and in the course of their quick and energetic treatment, they were all killed before I returned. I may remark, that the cucumbers did not run much to vine, no runner having extended so far as two and a half feet, which is rather a strong contrast to the result of the same treatment of pumpkins in the following season. I planted five seeds of a new variety of pumpkins among some potatoes in 1843, giving them precisely the same treatment as the cucumbers had the year before, but only gave them two charges—one at sowing, and one when they had two rough leaves: they were then left to themselves, when I have reason to believe one of the plants died, leaving only four, which, from their luxuriant growth, entirely covered the square in the garden, 57 feet long and 30 feet wide, in which they were planted: besides, every day or two, some runners crossing the walks had to be cut off. With all this luxuriance, *not a blossom was seen on them the whole season;* and I may also remark, that under their shelter the grubs had destroyed the potatoes, which were not worth digging, as nothing but thin shells of the outside were left.

I also last season, 1843, made some experiments with dahlias; but before the silent charge would pass freely through them, it was found necessary to water the plant all over, if the day had been very dry and hot. I will mention one in particular. On the 10th of September, I took off a cutting about a foot long, planted and shaded it till it struck; on the evening of the 15th it

received a silent charge, and on the 23rd was nearly three feet high. On that evening it received another charge, and was, on the first of October, almost six feet high, when it received another charge. Its growth was now rapid, owing, perhaps, to several thunder showers between that and the last week of the fair of the American Institute, when it was taken to Niblo's. Its height, including the root which was dug with it, was 11 feet 8 inches, while its diameter at the ground was under five-eighths of an inch. There were then two blossoms upon it, with several blossom buds: the blossoms were small, not quite two-thirds the size of those on the plant from which it was taken.

As I have explained at length these several experiments, and also the mode of giving the shock, I shall now only mention one other experiment of last year on the egg plant—*solanum melongena.* On the evening of the 3rd of June, I sowed some seeds of egg plant in a glass cup, with the same mixture as used before in the cucumber hills, and passed two smart shocks through it. In the morning most of the seeds had germinated, and were, in the afternoon, put in the open ground. During their growth, they received three charges, and the fruit was presented at the late fair. As to their size, they were not the *largest* there, but they were larger than any I saw in my own neighbourhood, and also larger than any I had ever before raised from plants forwarded in a hot-bed with much trouble and care in the spring.

This season my only experiment, as yet, has been with potatoes, and the electricity used is generated by different means from the others, which, until the discovery of Mr. Bain, was not adapted for the practical farmer. Now it is at once the most *economical, efficient, and simple to apply,* as may be seen by the following experiment: I had potatoes planted on the 6th of May, and as a first experiment with Mr. Bain's discovery, I procured a sheet of sheathing copper, which is about 5 feet long and 14 inches wide, and cut a piece of sheet zinc the same size as the sheet of copper.



c, in the above diagram, represents the sheet of copper buried in the ground at one end of the rows, and z the sheet of zinc buried at the other end of the rows, and *w* is a copper wire, which is attached to both the copper and zinc. The result of this arrangement is, that the two metals form a galvanic battery, being in metallic connexion by means of the wire *w*, and the moisture of the soil completing the galvanic circuit, which last is necessary, before any chemical action takes place. The potatoes were planted in drills, but as the copper was only five feet long, only three rows could be influenced by it. The potatoes were only once hoed, and from circumstances never earthed up. On the 15th of June, some potatoes were taken by the fingers from these rows, varying from one inch to one and a quarter in diameter; and those exhibited at the N. Y. Farmers' Club, July 2nd, were about two and a half inches in diameter, and were dug from the same three rows. Some of the adjoining rows were tried, but few of them had potatoes larger than marrowfat peas—certainly none larger than a boy's marble.

These experiments can only be taken as isolated facts: no more general conclusion can be drawn from them than that electricity accelerates the growth of plants. This has been observed by many of atmospherical electricity—but it has yet to be determined how, artificially excited, electricity can be made as available to the farmer as it now is to the electro-metallurgist, in reducing metals from their ores, or in gilding and plating, or even copying the most delicate engravings.

On a future occasion I may show how a battery may be put in action by the farmer without any other expense than that for the materials; all which, except the zinc, will last for an indefinite period, as there is no action whatever on the copper while a current is passing.—*N. York Farmer and Mechanic.*

Death of J. C. Loudon.

On the 14th of December, 1843, died, at his house at Bayswater, John Claudius Loudon, Esq., who for nearly half a century, has been before the public as a writer of numerous useful and popular works on Gardening, Agriculture, and Architecture.

Mr. Loudon's father was a farmer, residing in the neighbourhood of Edinburgh, where he was very highly respected; but Mr. Loudon was born on April 8th, 1783, at Cambuslang, in Lanarkshire, where his mother's only sister resided, herself the mother of the Rev. Dr. Claudius Buchanan, afterwards celebrated for his philanthropic labours in India. Dr. Buchanan was several years older than Mr. Loudon, but there was a

singular coincidence in many points of their history. The two sisters were, in both cases, left widows at an early age, with large families, which were brought up by the exertions of the eldest sons; and both mothers had the happiness of seeing their eldest sons become celebrated. Mr. Loudon was brought up as a landscape gardener, and began to practice in 1803, when he came to England, with numerous letters of introduction to some of the first landed proprietors in the kingdom. He afterwards took a large farm in Oxfordshire, where he resided in 1809. In the years 1813–14–15, he made the tour of Northern Europe, traversing Sweden, Russia, Poland and Austria; in 1819, he travelled through Italy; and in 1828, through France and Germany.

Mr. Loudon's career as an author, began in 1803, when he was only twenty years old, and continued with very little interruption during the space of forty years, being only concluded by his death. The first works he published were the following:—*Observations on Laying out Public Squares*, in 1803, and on *Plantations*, in 1804; a *Treatise on Hot-houses*, in 1805, and on *Country Residences*, in 1806, both quarto; *Hints on the Formation of Gardens*, in 1812; and three works on *Hot-houses*, in 1817 and 1818. In 1822, appeared the first edition of the *Encyclopædia of Gardening*, a work remarkable for the immense mass of useful matter which it contained, and for the then unusual circumstance of a great quantity of wood-cuts being mingled with the text. This book obtained an extraordinary sale, and fully established his fame as an author. Soon after was published an anonymous work, written either partly, or entirely by Mr. Loudon, called the *Greenhouse Companion;* and shortly afterwards, *Observations on Laying-out Farms*, in folio, with his name. In 1824, a second edition of the *Encyclopædia of Gardening*, was published, with very great alterations and improvements; and the following year appeared the first edition of the *Encyclopædia of Agriculture*. In 1826, the *Gardeners' Magazine* was commenced, being the first periodical ever devoted exclusively to horticultural subjects. The *Magazine of Natural History*, also the first of its kind, was begun in 1828. Mr. Loudon was now occupied in the preparation of the *Encyclopædia of Plants*, which was published early in 1829, and was speedily followed by the *Hortus Britannicus*. In 1830, a second and nearly rewritten edition of the *Encyclopædia of Agriculture* was published, and this was followed by an entirely rewritten edition of the *Encyclopædia of Gardening*, in 1831; and the *Encyclopædia of Cottage, Farm, and Villa Architecture*, the first he published on his own account, in 1832. This last work was one of the most successful, because it was one of the most useful he ever wrote, and it is likely long to continue a standard book on the subjects of which it treats.

Mr. Loudon now began to prepare his great and ruinous work, the *Arboretum Britannicum*,* the anxieties attendant on which were, undoubtedly, the primary cause of that decay of constitution, which terminated in his death. This work was not, however, completed till 1838, and in the mean time he began the *Architectural Magazine*, the first periodical devoted exclusively to architecture. The labour he underwent at this time was almost incredible. He had four periodicals, viz: the *Gardeners' Natural History*, and *Architectural Magazines*, and the *Arboretum Britannicum*, which was published in monthly numbers, going on at the same time; and to produce these at the proper times, he literally worked night and day. Immediately on the conclusion of the *Aboretum Britannicum*, he began the *Suburban Gardener*, which was also published in 1838, as was the *Hortus Lignosus Londinensis;* and in 1839, appeared his edition of *Repton's Landscape Gardening*. In 1840, he accepted the editorship of the *Gardeners' Gazette*, which he retained till November, 1841; and in 1842, he published his *Encyclopædia of Trees and Shrubs*. In the same year he completed his *Suburban Horticulturist*, and finally, in 1843, he published his work on *Cemeteries*, the last separate work he ever wrote. In this list, many minor productions of Mr. Loudon's pen have necessarily been omitted; but it may be mentioned that he contributed to the *Encyclopædia Britannica* and *Brande's Dictionary of Science;* and that he published numerous supplements from time to time, to his various works.

No man, perhaps, has ever written so much under such adverse circumstances, as Mr. Loudon. Many years ago, when he came first to England, in 1803, he had a severe attack of inflammatory rheumatism, which disabled him for two years, and ended in an anchylosed knee and a contracted left arm. In the year 1820, whilst compiling the *Encyclopædia of Gardening*, he had another severe attack of rheumatism; and the following year, being recommended to go to Brighton, to get shampooed in Mahommed's Baths, his right arm was there broken

* This work was published on J. C. Loudon's own account, at an expense of more than £10,000.—Ed.

near the shoulder, and it never properly united. Notwithstanding this, he continued to write with his right hand till 1825, when his arm was broken a second time, and he was then obliged to have it amputated; but not before a general breaking up of the frame had commenced, and the thumb and two fingers of the left hand had been rendered useless. He afterwards suffered frequently from ill health, till his constitution was finally undermined by the anxiety attending on that most costly and laborious of all his works, the *Arboretum Britannicum*, which has unfortunately not yet paid itself. He died at last of disease of the lungs, after suffering severely about three months; and he retained all the clearness and energy of his mind to the last.

His labours as a landscape-gardener, are too numerous to be detailed here; but that which he always considered as the most important, was the laying out of the Arboretum, so nobly presented by Joseph Strutt, Esq., to the town of Derby.

Never, perhaps, did any man possess more energy and determination than Mr. Loudon; whatever he began he pursued with enthusiasm, and carried out, notwithstanding obstacles that would have discouraged any ordinary person. He was a warm friend, and most kind and affectionate in all his relations of son, husband, father and brother; and he never hesitated to sacrifice pecuniary considerations to what he considerated his duty. That he was always most anxious to promote the welfare of gardeners, the volumes of this Magazine bear ample witness; and he laboured not only to improve their professional knowledge, and to increase their temporal comforts, but to raise their moral and intellectual character.—*From the Gardeners' Magazine.*

For the Farmers' Cabinet.

Vegetable Physiology.

I HAVE brought together from an article in *Paxton's Magazine of Botany*, a few paragraphs which have been to me particularly interesting, and I would have forwarded the whole, had it not only been, as I apprehend, rather too much extended for the Cabinet, but also too thoroughly scientific in its character for a work, which I suppose is meant to be practical, and common-place in its bearings. There are ten thousand of the commonest things around us, calculated to awaken inquiry, and to convince us, that after all our efforts, we can but tread upon the threshold of nature's grand laboratory of secrets. Yet to the active and inquisitive, it is ever delightful to approach as near as we may, and lift the veil, looking underneath for those "causes of things" which Lord Bacon says, are certainly revealed to none but such as seek assiduously for them. How beautiful is the progress, and how wonderful, from the first germ to the root, and the stem, and the leaf, and the flower and the fruit—we every day witness their developements, and pass them by, as things so common, that we almost forget to inquire into the economy which so easily brings about results, in themselves so abundantly worthy of admiration. But I did not mean to read a lecture of my own, but to give the extracts from Paxton.

"The utmost extent to which our investigations enable us to attain, is very remote from knowledge. Can it then be deemed surprising, that very few professional gardeners are acquainted with the structure of the plants they cultivate? When the time of any person is almost entirely occupied in works of manual labour, how is it possible that he shall be able to bend his mind to severe investigation of a dark and mysterious subject? And such is Vegetable Physiology.

"The root, *radix*, is the organ of nourishment, that by which a plant is attached to the soil, and absorbs the crude sap. It, in general, appears to be the first developement of vegetable vitality, since the *radicle* is protruded from a seed into the ground, before the stem ascends. A beautiful example of this is furnished by a fresh fallen acorn being suspended in a hyacinth glass, just above the surface of the water, with which the glass is to be previously three parts filled.

"If cuttings of any free rooting plant, as of the horse-shoe geranium, be inserted in a phial of water, and kept at a heat of 60°, it will be seen that a ring of the substance called *callus*, is gradually formed between the bark and the wood, portions of which become granular, prominent, and acquire length. These protrusions are roots, and with them the cutting becomes a plant; hence we infer that the root is the first vitalised production of vegetable germs, and though a cutting be a portion of secondary developement, it is only a mutilation, and nothing better, till some vitalised pre-organised germs be brought into action in the form of roots.

"The reader will perceive by the above attempted definition, how much the mind labours in its endeavour to explain phenomena which are hidden in mystery! what children we are! talking of knowledge, and yet displaying our utter ignorance of causes

and first principles! still we know enough with reverence to admire.

"We know nothing of the *vital principle*—it may be a *fiat*—partaking of the nature of the breath of life;—it may be sentient, conferring on a plant, however low in its degree, some trace of feeling and volition; or it may be electro-magnetic, acting altogether through the instrumentality of attraction and conduction. We lean to this last opinion, because we perceive in every act of nutrition, some phenomena of chemical decomposition; but setting aside these considerations, it is quite certain, and will be self-evident to the philosopher who inquires aright, that every part of a tree or plant, and all its productions, *when deprived of life*, are subject to chemical laws, and can be explained by them, and them alone.

"By the application of proper tests, we discover the elements into which all vegetable matters, organic and inorganic, can be resolved. We learn that by analysis of the insoluble ashes, left after the combustion of plants of all kinds, we may arrive at a tolerably correct knowledge of the proper manure which any individual plant demands for its peculiar aliment.

"The science of manuring, we admit, is in its infancy; yet its dawning has become manifest, researches have commenced, and the mind of man has begun to appreciate the powers with which it is gifted."

It has been remarked that "Literature has its curiosities, and Art its museums of singular antique productions;"—but, let me ask, can the artist, or scholar, find among his treasures an ampler field for the employment of his highest powers, than the farmer who quietly walks forth among the simplest specimens of vegetable life? S. S.

Delaware co., Pa.

A New Grain Fork.

At a farm near Buffalo, we saw a new grain-fork, the best adapted for pitching sheaves of grain, of anything of the kind we ever before noticed.

Its construction is perfectly simple, and it can be made by any skilful blacksmith accustomed to forge pitchforks. It consists of two tines, nine inches long, which are spread two inches at the shank, and two and a half at the ends. The shank has a sudden curve at the end, of about two inches, so as to bring the points of the fork nearly in a line with the direction of the handle and shank. The naked part of the shank is eight inches long, one inch wide, by one-third of an inch thick, and enters the handle, which has a ferule on the end of five inches, secured to the shank by a strong rivet. The tines and shank are made of the best of German steel, and possess great elasticity, which very much lessens the labour of pitching. The handle may be of any desired length, but should possess as much elasticity as possible. Mr. A. Raynor informed us, he could easily throw a sheaf of wheat over his barn from the load, and that he never pitched so easily with any instrument as this. The sheaf leaves the tines with an elastic spring, and the fork at the same time utters a musical sound, like the tuning fork, when struck by a music master.—*American Agriculturist.*

From the British American Cultivator.

The Farmer's Harvest Song.

Ho! rouse ye lads—the morning breeze
Has swept the mist from the stream,
And afar on the hills the towering trees
Are tipt with the day's first beam;
The stars are gone—the night has sped,
And the lark has hailed the day;
Arouse ye, then, while the morn is red—
Away to the field, away!

To us no music sounds more sweet
Than the sharpening clank of the scythe;
And echoing hills with gladness greet
The song of the reaper blythe.
How pleasant to follow, with rake in hand,
The mower's devious way,
And scatter abroad with lightsome wand,
The green and perfumed hay.

Let the soldier exult in the pomp of war,
The king in his serf-thronged hall;
The free-born farmer is happier far
Than kings, and lords, and all.
His are no fields with carnage red,
And drenched with the blood of the slain;
But hills and vales o'er which is spread
A harvest of waving grain.

The summer sun, o'er valley and plain,
Has shed his genial ray,
'Till smiling acres of golden grain
Await the harvest day;
And into their borders we will not fail
To carry the war to the knife,
And eager, too, are the cradle and flail
To be wielded in bloodless strife.

Then up and away, while the diamond dew
Bespangles the bending corn;
And gayly we labour, the while we woo
The bracing breath of morn,
And under the shade of the beeches green
We'll rest at noon of day;
Hurrah! for the sickle and scythe so keen!
Away to the field—away!

From the Cultivator.

Bees.

I SUPPOSED until lately, that when bees swarmed there was but one queen bee came out with the swarm. But recent experience and observation have convinced me otherwise. I find that not only two or three queens come out, but sometimes as many as five or six leave the hive at the same time.

On the 25th of May, between 11 and 12 o'clock, I had a hive of bees which commenced swarming. They flew some 30 or 40 yards, and began to settle on the limb of a peach tree, about 10 feet from the ground.

Before they had half settled, another hive, standing 10 or 12 feet from the other, commenced swarming; and before these had all come out, another hive standing three or four feet from the one last mentioned, commenced swarming. They all followed in the same train of the first swarm.

I got a hive and began to take down the first that had settled, with a basket that I use as a hiver. The other kept settling in the same place, and as I could make no distinction between swarms, I continued taking down, until I had taken them all down and put them into a large square hive. They remained quiet during the afternoon, but did not all incline to go into the hive; a quart or two remained outside. At night I carried them to the place where I intended they should stand. The next morning before sunrise I made them a visit, and found nearly all in the hive. A little distance from the mouth of the hive I found a dead queen. I raised the hive, and saw another dead queen on the bottom board. I took them both away. About two hours after, I found two more dead queens drawn out of the hive. A few bees were flying about, as I have frequently seen them when they have lost their queen, but the main body of the bees were quiet. About 12 o'clock there appeared to be a good deal of commotion among them. I went to my dinner; was gone about half an hour. On my return, I found the hive *empty*, except a few scattering bees. On the bottom board lay another dead queen which made *five* that I had found dead. I looked around to see if I could find any trace of the absconded bees. About 20 or 25 yards from the hive, I found a swarm of bees settled on a peach tree, which I supposed to be a part of those that had left the hive. There could not have been more than one third, or one half at the farthest, of what I had put into the hive the day before. What had become of the others I could not tell. I went for a hive, but before I got one ready they all took their wings and went to the woods. I would here remark that the first hive that commenced swarming the day before had swarmed *three* times this season before, and each time had returned to the old hive, of their own accord. The second time I knew a queen came out, for I found her in the grass, and lifted her up, and she arose into the air. Whether she got lost, or returned to the old hive with the bees I could not tell. On the next day (May 27,) the same hive that first commenced swarming on the 25th, swarmed again. I was present when they came out. Seeing a number of bees on the grass near the hive, I loked for the queen. I soon found *one*, and took her prisoner, as I was determined to put the bees back into the old hive. The bees flew a short distance and settled on the limb of a tree about 12 feet high. I got my hiver and took them down. I had the curiosity to examine them and see if there was another queen, and to my surprise I found *three* more, all of which I made prisoners. I then let the bees go back into the old hive. The next day (May 28,) I was informed that a swarm of bees had come out and settled on a tree in the yard. I did not see them till they were all settled; of course I could not tell what hive they came out of. I got my hiver and took them down. I soon found one queen; cropped one wing to prevent her from flying away, and put her into a hive. On further examination I found another, which I took away and killed. I put the bees into the hive, and set it where I intended it should stand. During the afternoon I passed the hive several times. At one time I discovered a queen outside of the hive which had *not* her wing cropped. She had hid herself in the bees, and I had overlooked her. I took her prisoner. The next day the bees came out of the hive and went directly to the woods. I then ascertained for a certainty that *five* queens had been killed, including what I had killed mysef. And allowing *one* to go off with the swarm, there must have been at least six queens when they first swarmed.

On the 30th, the hive where I put the bees back on the 27th, (after destroying four queens,) swarmed again. I examined them, and found two queens. One I killed—I cropped one wing of the other and put her into a hive with the bees; I thought there was no use in putting them back again into the old hive, they appearing determined on swarming, and would multiply queens as fast as they wanted them.

JACOB HITCHCOCK.

Dwight Mission, C. N.,
June 8, 1844.

On the Manuring and Steeping of Seeds.

By James F. W. Johnston, F.R.SS.L. & E., Hon. Member of the Royal Agricultural Society of England.

In our last number an article was given in relation to soaking seeds in chemical solutions, with a promise to recur to the matter again. We acknowledge considerable interest in this subject, without however feeling prepared to subscribe to all the sanguine expectations of the German writers. Many experiments have been tried in this country which have resulted in tolerable success, showing plainly, that it is worth while for the farmer to look into them. To raise large crops cheaply, is the grand object in profitable farming; and it would be a great practical error to conclude that all is known, which is likely to promote this desirable end. After knowing what is said, the enterprising farmer will adopt the measures most likely to lead, as he may believe, to the furtherance of his interests.—Ed.

Public attention has lately been drawn in this country, to the possibility of so manuring or otherwise doctoring the seeds of our usual grain crops, before they are put into the ground, as to do away with the necessity of manuring the soil itself. It has been long known to practical farmers that, by steeping their seeds in urine, in salt and water, or in other solutions, and sprinkling them while wet with quicklime, their growth is in many cases promoted, and the rust, smut, and similar diseases, in a great degree prevented. It has been observed also in regard to potatoes, that in some soils a dusting of lime makes the cuttings more productive than they would otherwise be, and that, when powdered with gypsum, they thrive still better. The absolute effect indeed of all such applications to the seed-corn or to potatoes, will in every case be modified by the kind of soil in which the seed is sown. If the soil abound in common salt, the salting of the seed will be less efficacious, while if it be rich in lime or in gypsum, the dusting of the potatoes with these substances will produce a less striking effect. Yet the above observations of practical men, show that it is possible in certain circumstances, and by the use of certain substances, so to doctor or manure the seed we intend to sow, as to make the growth of our crop more sure, and the return of our harvests more abundant.

From this *limited* conclusion, which is justified by experience, some persons have hastily leaped to the *general* assertion, *that all seeds may be so doctored as, in all circumstances, to grow more luxuriantly*—and still farther, *that they may be so treated as to render unnecessary any manuring of the soil in which they are to be sown.*

It is in Germany that this latter broad assertion has been most confidently made and most pertinaciously repeated. It has met with some credence also among ourselves, from persons chiefly, who, like the German fathers of the statement, know a little more than the generality of practical men, but who do not know enough to enable them to see the difficulties that beset their own views, nor the limits within which their statements are true.

It will, no doubt, interest the British farmer, to read the statements of those who bring forward these novel views, and to consider the degree of probability which exists as to their expectations being realized.

The great discoverer in this new line is Franz Heinrich Bickes, of Castel, near Mayence, who has published a pamphlet under the title of an "*Account of the Discovery of a Method of Cultivating the Soil without Manure*," in which he thus speaks:

"The discovery—of cultivating the soil without manure—has been carefully verified in different countries, and in the most dissimilar soils.

"It is twelve years since the discovery was made, and it has, during this time, been more and more tested.

"The experiments have been made at various seasons of the year, and the same crop has been repeated on the same soil without regard to the usual rotation of crops.

"The cost is very trifling—a shilling or two an acre—and the supply of the substances used instead of manure, is inexhaustible."

He then expatiates on the importance of his own discovery.

"It is not good," says Plato, "to push our investigations too far; the natural sciences find their limits, beyond which the mantle of Isis covers what is mysterious. Can any one reveal the nature of force, of life, and of motion? *The mantle of Isis is now, by this discovery, at length removed.*

"It is not the discovery of a mere crude substitute for manure, but the result rests on a knowledge of the nature of plants, by which the vital power is increased in all respects, and their existence elevated and ennobled!"

Here follow some of the results of his new method.

"Who can assign limits to the growth of a plant?

"I possess dried plants of wheat, consisting of fifty-six and fifty-seven stalks. Indian

corn, grown in a poor soil, with three or four stems and eight or nine heads. Sunflowers eleven feet high, with flower disks fourteen inches in diameter, and seeds as large as small coffee beans. Potatoes above seven feet high, and tubers in proportion.

"Varinas and Havanna tobacco have, for eight years, preserved the well-known flavour of their native country.

"Drift sands have produced crops equal in quality to the neighbouring loams.

"All parts of the plants, stems, roots, leaves, seeds, fruits, have been equally improved—the tubers of potatoes, and other roots, are tenderer and more agreeable to the taste. Turnips and fruits more abundant in sugar, flowers of brighter hues and higher perfume.

"Agriculture can now be prosecuted after an entirely new method. Manured every year almost without cost, plants will develope themselves almost spontaneously, and yield the largest returns.

"A rotation of crops is a mere beggary from the soil! Every third, fourth, or fifth year, the farmer manures a third, a fourth, or a fifth of his whole farm, and in return he has the pleasure of seeing his fields green without putting much into his pocket—while now the most profitable crops may be raised with a luxuriance hitherto unknown."

The author here calculates the present cost of manuring the soil, and supposing the new method to cost only one-fifth, shows how many millions the adoption of it would annually save to every nation in Europe. He then adds—"Consider how much land in every country at present yields little or nothing, and yet might be brought into the greatest fertility, and how many happy people might enjoy life upon it who are at present a burden to the state. . . .

"Look to England. What fearful want now exists in that country, the resources of which are every year diminishing. Men daily die of hunger, and the most talented statesmen are without hope of mitigating the evil. For several years past the city of London has been paying 24,000,000 of florins of poor's rate, while the whole of Germany pays only 60,000,000.

"Berlin pays annually 420,000 florins, and 40,000 souls are tax-free. All these could find, *in the neighbourhood*, land susceptible of cultivation, on which they could not only live, but from which they could pay taxes to the state." . . .

"Potatoes are vegetable bread; Indian corn also is a wholesome nourishment; both grow beautifully on the lightest drift sand: *with the former the whole sea-shore might be covered.*"

The practical farmer will justly consider that Bickes' mode of treating his seed potatoes must be something wonderful, to make them grow well on the sandy downs that line so much of our coasts. But he proceeds to give testimonials as to the efficacy of his method and the truth of his statements. These testimonials are from practical men in various parts of Germany, and must be deserving of credit *to a certain extent*. It will be proper, therefore, to hear what they say. The first two are dated Vienna, 1829, and are signed by four persons; they refer to seed sown in the imperial gardens. From the second of them I quote the following:—"In general, the plants from the prepared seeds exhibited a very much stronger growth, were of a deeper green, had thicker stems, finer and fresher leaves, larger grain, and the grain was thinner skinned, and therefore contained more meal. In particular,

"1°. The hemp was of a much larger size, and had many side shoots bearing seed.

"2°. The Indian corn had more heads.

"3°. The buckwheat was upwards of three feet high, and full of seed.

"4°. Wheat, rye, barley, and oats are thicker, and have more numerous stems, larger ears, and more grains in each.

"5°. The Lucerne was beyond all comparison stronger, had more shoots, and its roots were as thick again.

"6°. The disks of the sunflower were doubled in diameter, the cabbage had larger heads, the cucumber large fruit, while the unprepared seed yielded nothing."

I quote further what must be considered as a mere opinion, adopted in part, no doubt, from the sanguine Mr. Bickes himself:—"Since this highly beneficial discovery renders all manure unnecessary, and can be applied to the poorest soils without the necessity of having a previous stock of cattle to produce manure—which, from want of fodder, is in many places impracticable—as the material is of little cost, and as the corn crops will require less seed, its benefit to agriculture must in many respects be incalculable."

The next two testimonials are dated from Offenbach, in August, 1830, and are signed by five persons. Three of these had allowed their seed to be prepared by Mr. Bickes, and thus speak of the effects when sown upon their own fields:—"The prepared wheat had from ten to fifteen stalks from each grain of seed, and the ears and grain were larger. The rye had nearly one half more, and larger grains in the row. The two-rowed barley had from eight to fifteen stalks from a single seed; generally the produce was greater than on the best fields of their

farms. The prepared flax was one half heavier in stems and seed capsules, and the latter were double in number; and when the unprepared had already become yellow, the prepared was still of the deepest green. But the potatoes excelled everything yet known in the most productive fields. From a single potatoe there were seldom less than ten, and sometimes seventeen strong stems, while, in the best fields, there are seldom more than one-third of this number."

All other plants, clover, beans, turnips, &c., are said to have been equally benefitted. One-fourth only of the usual quantity of seed—of wheat and rye—was sown on a poor unproductive clay, and yet the produce was greater than on the newest land of good quality, though aided by manure.

Two testimonials follow, dated September, 1831, signed by burgomasters, town-councellors, gardeners, schoolmasters, farmers, and land-valuers, seventeen in number. The following is an extract from the one which relates to experiments made in a garden at Büdingen:—

"1°. Several sunflowers had a height of ten to eleven feet, the foot of the stems being eight and a half and nine inches in thickness. The stems consisted of firm wood, and contained as much combustible material as young fir trees of eight or ten years of age.

"2°. Ten or twelve potatoe plants gave on an average thirty large potatoes each, and had stems seven feet in height.

"3°. Fifteen stalks of Indian corn had on an average five heads each, some having as many as eight or nine heads to a single plant."

The next experiments quoted by the author, were made at Amsterdam, in 1834:—

"The buckwheat was four and a half to five feet high, the flax had four to five stems from each seed, the Indian corn was nine to ten feet in height, and had four to five heads from each seed. The white clover was as large in the leaves and stems as the red clover usually is; the red clover and Lucerne three feet high.

"These results were obtained from the prepared seeds alone, without manure, on a depth of six or eight inches of the drift sands of the downs, arranged in beds for the purpose of the experiments."

Between 1834 and 1839, nothing is recorded regarding the progress of the author's discovery or researches, and he leaves us to infer that, in this interval, nothing had been done—since, under the date of September, 1839, he inserts only an extract from a Mayence newspaper, containing a statement of some of the results obtained in the former years. To this is subjoined one other testimonial, dated November, 1841, declaring that his potatoes, sown on unmanured soil, were superior to any others in the neighbourhood of Castel, where M. Bickes resides.

I think the conclusion which is fairly to be drawn from a careful perusal of this pamphlet is, that, for a few successive years, the author had made experiments upon the preparing of seeds, and out of a number of less successful, had obtained some very interesting and striking results; that he had then laid the matter aside for about as many years more, and again, in 1841, made a solitary experiment or two, which he has incorporated with his previous results in his pamphlet of 1843. For twelve years, therefore, he has been more or less occupied with the subject, but during all that time he has never published or given any account of his process for preparing the seeds according to his method. He is one of that class of discoverers who wish to sell their secrets, and, by magnifying their importance, hope to derive a larger profit from divulging them. With such men the true friends of agriculture can have no sympathy.

I do not think, however, that his pretensions are wholly unfounded, or that, by a skilful study of the preparation of seeds, much good may not hereafter be derived by practical agriculture. The reasons for this opinion will appear in the sequel.

(To be concluded in next No.)

For the Farmers' Cabinet.

Variety of Colours.

To the Editor,—Among the many beautiful and wonderful objects which we are accustomed to gaze upon, almost without taking note of them, as we walk forth upon this wide world of ours, the great variety of colours which we witness in things around us, is not one of the least delightful. We pass through the garden, and though it may be in humblest style—for nature works just as delicately for the peasant, as for the prince—we behold "flowers of all hue," from the deepest and most gaudily coloured, to the *snow white*, which we are told, shows the absence of all colours. The eye luxuriates over the rich paintings which spring up in all directions, the delicacy of whose touches, Solomon could not rival, in all his glory. We pass through the corn-field, and once in a while observe that nature has played one of her pranks, by stepping apparently out of her usual track, and producing a stalk which shows some striped leaves

different from all else in view—we witness the difference of colour in the foliage of different trees and grasses—and we look again at the birds which sing to us, or at those which prowl upon our labours, or at those which are domesticated in our yards, and cannot avoid the question—how happens all this beauty and variety, and richness of colouring! And when the philosopher steps forward and undertakes to explain it all, we really find he does not know much more about it than ourselves. True, he may by a beautiful process decompose a ray of light, and talk to us very learnedly about it, but I have yet to meet the man, who could give any other reason why the "Rose is red, and the Violet blue," than that it is their respective natures to be so.

In Maund's Botanic Garden for November last, I find the following remarks in relation to this subject; if they are considered worth their room, please give them a column in the Cabinet. S. P.

"In reference to the consideration of colours, we have usually found that the black soil of old gardens, rarely affords flowers with colour either so deep or bright as fresh earth of redder tint. The rich deep-coloured wall flowers, sometimes called bleeding hearts, growing against a country cottage, may have met the admiration of many of our readers; and some may have proved that by transplanting them into town gardens, of black earth, they have become comparatively pale and ordinary coloured. This, it is possible, since acids heighten the tint of many yellows and reds, may arise from the deficiency of oxide of iron in such soils. Liebig says, however, 'It must be ammonia—an alkali—which forms the red and blue colouring matters of flowers.'

"On no subject is human knowledge more defective, than that of the production, and changes, of colours. Several theories have been promulgated in different ages, but still none that has been generally accepted. Although astonishing advances in science have lately been made, still our knowledge on this head, may well keep us humble minded.

"A few facts, proved by Dr. Lewis, may interest our readers more than speculation. Yellow flowers, unlike all others, communicate to water or to spirit of wine, durable yellow colours, not alterable, but in degree, by acids or by alkalies; the former only rendering them paler; and the latter rendering them deeper. Wool or silk, impregnated with a solution of alum or tartar, receives, on being boiled with the watery infusion or decoction, a durable yellow dye. A durable yellow lake is prepared, by precipitating with alum, an infusion of yellow flowers made in an alkaline ley. In some of the orange coloured flowers, the yellow matter seems to be of the same kind as that of the pure yellow flower; but the red matter seems to be different from that of the pure red flowers. The yellow matter is extracted from these flowers by water; and the remaining red matter is extracted by spirit of wine, or by a weak solution of a fixed alkali, in water."

Prevention of Potatoe Failure.

By Mr. James Caird, Baldoon, Wigton.

With the remarks in the last and preceding Quarterly Agricultural Reports, on the failure of the potatoe crop, I quite agree, and have experienced the propriety of the advice to plant unripened seed. My seed potatoes last year (1842) were raised before they were perfectly ripe, and I have had no failure. Nearly all the seed I planted this year, however, was the small unsaleable tubers planted whole, rejecting the very smallest. The crop was very healthy and productive. Indeed I have never seen a failure where small potatoes uncut, are used for seed; and I believe this uniform success to arise from the *small* potatoe being unripe when taken from the ground. This opinion rests on the assumption that all the *small potatoes of a crop have not reached maturity when the rest of the crop is ripe*, as being the last formed. If this be so, it strengthens the common opinion, that the less ripened potatoe of the upland districts makes the best seed. But at the same time we see how good seed may be had without the trouble or expense of a change from a late district, if we either plant the small potatoes of our own crops, or raise a portion for seed before they have reached maturity.—*Journal of Agriculture.*

Cotton.—Of the four great divisions of the globe, Europe was the last to receive the cotton manufacture, and England was among the last to engage in that branch of industry. So immense is the extent of the British cotton manufacture at this time, (1838,) that the yarn spun in a year would, in a single thread, pass around the globe's circumference 203,775 times; it would reach 51 times from the earth to the sun; and it would encircle the earth's orbit eight and a half times. The wrought fabrics of cotton exported in one year, would form a girdle for the globe, passing eleven times round the equator.—*Seabrook's Memoirs on the Cotton Plant.*

From the N. Y. Farmer and Mechanic.

Sulphate of Ammonia, Sulphate of Soda and Nitrate of Soda.

These are very useful preparations and essential materials for manures; they may be used separately or collectively, and but a few experiments are required to detect the great advantages which they are respectively exercising. The *Sulphate of Ammonia* is according to the subscriber's ideas, best employed in a liquid state, say two to three lbs. for a barrel of water, and by sprinkling over the ground morning and evening, the effect is visible within three days, and Mr. Gilbert, of Jersey City, has made the same observation with his cauliflowers; mushrooms may readily be raised in a week; there is no doubt but the advantages in using these very preparations are twofold. 1st. In planting corn, you make the grain sprout quickly, and the grub-worm, which is the greatest enemy to the farmer, has little time to attack the planted seed, which at once begins to sprout. 2nd. The plant certainly produces an early crop in every instance, and in a pecuniary respect it is of much service. *The Sulphate of Soda* may be used in a liquid state, but I prefer it in lumps mixed up with dung or horse manure, as it will then gradually decompose and form with the ammonia devolved from the dung the various production of salts; it is invaluable for an early potatoe crop. The *Nitrate of Soda* is by itself too powerful to use, and may well be mixed with the Sulphate in proportion of one lb. of the first to four lb. of the latter.

All the three salts may be used in solution or in a dry state, and will prove very efficient, say:

2 lbs. Nitrate of Soda,
3 lbs. Sulphate of Ammonia,
5 lbs. Sulphate of Soda,

All mixed up and dissolved in one hogshead of water, if intended for artificial guano; to the above composition one bushel of bone dust may be added, and it will be found to be highly useful.

The subscriber is now preparing synthetically the guano as by the analyses of Dr. Charles T. Jackson, of Boston, and will be able to furnish it at five cents per lbs.

The price of Sulphate of Soda is half a cent per lb. by the barrel, of about 200 lb.

The price of Nitrate of Soda is five cents, and the price of Sulphate of Ammonia is seven cents per lb.

Compound chemical whale oil soap has stood the test of three years use, and is found beneficial either as a wash on trees, or with a syringe thrown over them, where the insects prevail, such as the ants,—either black, red or white—curculio, turnip beetle, cocus, rose bugs, leaf lice, peach, apple and pear tree insect, caterpillars, &c.

For further particulars, apply to

Dr. Lewis Feuchtwanger.

Dairy Contrivances.

Belvoir Castle, the residence of the Duke of Rutland, in Derbyshire, England, is celebrated not only for its elegance as a ducal abode, but for the extent and excellence of its agricultural arrangements, and especially for the accessories of its fine dairy, under admirable management, and *a model* in all its operations. The plan adopted in this dairy for obtaining the cream without skimming it from the surface of the milk, has been mentioned in a late address to the Royal Horticultural Society, somewhat as follows: The milk-room in the first place, is lined with porcelain, and in order to preserve it continually fresh and cool, as well as to create a gradual ventilation, a fountain of cold water is kept constantly flowing in the middle of the dairy, the current rising through an upright pipe in the centre, and, having attained its height, rolling back in sheets of water over a cone of successive basins, increasing in size from the top to the bottom, where the water enters a drain and is carried away. All the puncheons are of china-ware, and very shallow, it having been satisfactorily ascertained that the amount of cream thrown to the surface by a given quantity of milk, is dependent, to a certain extent, on the breadth of surface given to it by such shallow vessels, the same measure of milk poured into a vessel, allowing it to stand at two inches deep, casting nearly twice as much cream as it would do if its depth were eight inches. In the experimental part of the dairy, the puncheons, containing milk from various cows of the different breeds, are arranged in distinct order, and duly registered with every circumstance of condition supposed to affect the quality and quantity of the milk and cream obtained in each case; but the greater bulk of the milk is kept in leaden cisterns, about three feet long, two feet wide, and three inches deep, the bottom of each cistern, inside, having a slight concavity, in the centre of which is an aperture, connected with a tap underneath, for the purpose of drawing off the milk, and leaving the cream behind, untouched, in the cistern. —*Saturday Post.*

Instead of spending a rainy day idly, repair whatever wants mending, or post your accounts.

Horticultural Exhibition.

THE 16th Autumnal Exhibition of the Pennsylvania Horticultural Society, will beheld at their rooms on the 18th, 19th, and 20th of next month. They offer the following premiums.

NATIVE GRAPES.

For the best Isabella, not less than six bunches, $3
For the next best do. do. do. 2
" " best Bland or Powell, do. do. 3
" " next best do. do. do. 2
" " best Catawba, do. do. 3
" " next best do. do. do. 2
" " best Elsinborough, do. do. 3
" " next best do. do. do. 2
" " best of another variety, do. do. 3
" " next best do. do. do. 2

FOREIGN GRAPES, RAISED IN THE OPEN AIR.

For the best Black or Red Hamburgh, four bunches, $5
For the best Hansteretto, four bunches, 5
" " " Black Constantia, do. 5
" " " Chasselas, do. 5
" " " White Gascoigne, do. 5
" " " do. Frontignac, do. 5
" " " St. Peter's, do. 5
" " " of another variety, do. 5

FOREIGN GRAPES, RAISED UNDER GLASS, WITHOUT ARTIFICIAL HEAT.

For the best four bunches, $5
" " next best four bunches, 3

FOREIGN GRAPES, RAISED UNDER GLASS, WITH ARTIFICIAL HEAT.

For the best four bunches, $5
" " next best four bunches, 3
" " best peaches, not less than one peck, 3
" " next best do. do. do. 2
" " best do. do. two dozen, 2
" " best do. do. one bushel, 10
" " next best do. do. do. 5
" " best Seckel pears, not less than one peck, 3
" " next best do. do. do. 2
" " best Beurre or Butter do. do. 3
" " next best do. do. do. 2
" " best Bartlett pears, not less than half a peck, 3
" " best pears, of another variety, not less than one peck, 3
" " next best pears, of another variety, not less than one peck, 2
" " best and most numerous named varieties of pears, 5
For the next best and most numerous named varieties of pears, $3
" " best apples, not less than one peck, 2
" " next best apples, do. do. 1
" " best apples, do. do. one bushel, 3
" " next best apples, do, do. do. 2
" " best and most numerous named varieties of apples, 5
" " next best and most numerous named varieties of apples, 3
" " best quinces, not less than half a peck, 3
" " next best do. do. do. 2
" " best nectarines, not less than one dozen, 3
" " best plums, not less than two dozen, 3
" " next best do. do. do. 2
" " best water melons, not less than three in number, 3
" " next best water melons, not less than three in number, 2
" " best nutmeg melons, or variety thereof, not less than three in number, 2
" " best cranberries, cultivated, not less than half a bushel, 2
" " best potatoes, not less than one bushel, 2
" " next best do. do. do. 1
" " best sweet potatoes, do. do. 2
" " next best do. do. do. 1
" " best onions, not less than four dozen, 2
" " best cabbage, not less than six heads, 3
" " next best cabbage, do. do. 2
" " best red cabbage, do. do. 3
" " best lettuce, do. do. 2
" " next best do. do. do. 1
" " best endive, blanched, do, do. 2
" " best carrots, garden culture, two dozen, 2
" " best salsify, not less than two dozen, 2
For the best and greatest amount of honey, produced by one swarm of bees, of the present season, 3
For the next best and greatest amount of honey, produced by one swarm of bees, of the present season, 3
For the best fifty named varieties of dahlias, 5
For the next best fifty named varieties of dahlias, 3
For the best twenty named varieties of dahlias, 3
For the next best do. do. do. 2
For the best American seedling particoloured dahlia, 3

For the best American seedling self-coloured dahlia, $2
For the best ten named varieties of dahlias, grown by amateurs, 3
For the next best ten named varieties of dahlias, grown by amateurs, 2
For the best dahlia, grown by amateurs, 2

FOR DESIGNS FORMED OF CUT FLOWERS, ETC.,

Which are not to occupy at their base more than six feet square.

For the best and most appropriate, $40
" " next best and most appropriate, 30
" " do. do. do. do. 25
" " do. do. do. do. 20
" " do. do. do. do. 15
" " do. do. do. do. 10
" " do. do. do. do. 5

☞ No special premiums to be awarded for designs.

FOR BOUQUETS.

To be confined to those suitable for the centre-table, the hand, or of basket form.

For the best and most approved, $7
" " next best and most approved, 5
" " do. do. do. do. 3
" " best formed of indigenous flowers, 5
" " next best do. do. do. 3
" " best pair of wreaths for festooning, 10
" " next best pair of wreaths for festooning, 5

Guano and Turnips.

On reading in your last paper, the statement made by John Henry Vivian, Esq., M. P., president of the Swansea Farmers' Club, respecting the failure of his turnip crop that had been manured with guano, it reminded me of a similar occurrence, which happened to a friend of mine in this neighbourhood, and of which I was an eye-witness. Hearing so much about the wonderful effects of guano as a manure, induced him to make trial of it for part of his turnip crop; and not knowing any thing of its nature, or of the mode of using it, he thought the best plan he could adopt was to sow the guano and turnip seed together, as when bones are used. He accordingly did so; and after waiting for some time, he wondered why no turnips made their appearance, as they did in other parts of the field. On examining the drills, he was surprised to find that some of the seed had chipped, and made an effort to grow, but had afterwards shrivelled up. Others, again, looked as if they had been kiln-dried, and lost their vegetative power. As a matter of course, the guano was blamed as the cause of the failure, and most heartily was it and every other new kind of manure abused. Nothing, in his opinion, would ever surpass good old farm-yard manure, and any body might have his share of guano, for what he cared about it. Happening to ride past at the time my friend had made this unfortunate discovery, I recommended him to have the part of the field harrowed afresh and sown again, by way of experiment—for I ought to observe, he had applied the guano at the rate of rather more than three cwt. per acre. He adopted my suggestion, and, singular enough, in the course of some days, the turnips which had been sown broadcast, made their appearance from one end of the field to the other, marking as distinctly as possible, the lines where the drill had deposited the guano in the first sowing. In due time, the intermediate spaces were horse-hoed, and the turnip rows properly thinned. Nothing could exceed their luxuriance. Although sown nearly three weeks later than the main crop, they soon overtook them, and became far superior in every respect—so much so, indeed, as to be the subject of general remark in the parish. Hence I think it may be safely laid down as an axiom in the use of guano, and which has already been mentioned in the Gardener's Chronicle, *that it should never be applied in contact with seeds*, as it kills the embryo in germination.—*Gardener's Chronicle.*

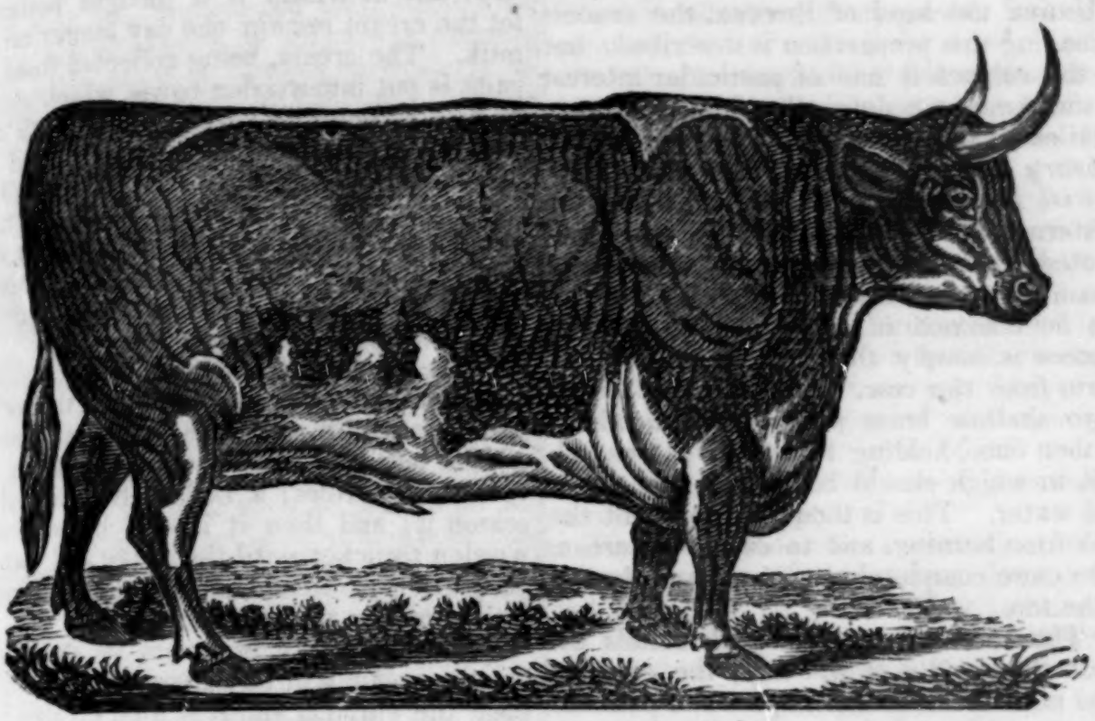
A Cheap Paint.—Take one bushel of unslacked lime, and slack it with cold water; when slacked, add to it 20 lbs. of Spanish whiting, 17 lbs. of salt, and 12 lbs. of sugar. Strain this mixture through a wire sieve, and it will be fit for use after reducing with cold water. This is intended for the outside of buildings, or where it is exposed to the weather. In order to give a good colour, three coats are necessary on brick, and two on wood. It may be laid on with a brush similar to whitewash. Each coat must have sufficient time to dry before the next is applied.

For painting inside walls, take as before, one bushel of unslacked lime, three lbs. of sugar, five lbs. of salt, and prepare as above, and apply with a brush.

I have used it on brick and wood, and find it preferable on both, to oil paint.

You can make any colour you please. If you wish straw colour, use yellow ochre instead of whiting; for lemon colour, ochre and chrome yellow: for lead and slate colour, lamp-black; for blue, indigo; for green, chrome green. The different kinds of paint will not cost more than one-fourth as much as oil paints, including the labour of putting on.—*Exchange Paper.*

B. B. HERR'S NATIVE STEER.



THE above is an illustration of a steer, or young fatling, raised on the farm of Mr. B. B. Herr, near Paradise, Lancaster county, Pa. He was slaughtered by Messrs. Scherff & Miller, of Lancaster, in May last. His weight in dressed meat, was 1,400 lbs.; age four years. He was considered a fine specimen of the native breed.

Raising Heifers.

ISAAC W. ROBERTS, of Montgomery county, has been very successful in raising and fattening cattle, chiefly of the Durham breed. It is his practice to take the calves of this fine breed, and, when two or three weeks old, put them with common native-bred cows. He weans at 3 or 4 months old, when the calf is able to thrive well on grass alone, and the native cow, going dry, is soon fit for the butcher, at a price that will nearly, if not quite, pay for her first cost and a fair allowance for pasturage. He thinks that calves thus raised, and entering the winter in good condition, being properly housed and fed during cold and inclement weather, gain nearly a year on such as are prematurely weaned or fed on skimmed milk. He entirely disapproves of letting calves run three or four months with valuable cows intended for breeding, and especially where milking properties are to be retained.

With all those who desire to possess an improved and select stock, it is deemed highly important that they should raise their own calves; and this is rendered the more important from the high prices usually to be obtained for calves of the best breeds. Mr. Colman gives the following information upon this subject, derived from his observations in Massachusetts. "A farmer of my acquaintance in the interior, raises all his calves from a large stock of cows. His cows are known to be of prime quality. His heifers are allowed to come in at two years old, and are then sold with their first calf generally for thirty-five dollars, which he deems a fair compensation for the expense of raising. His calves are raised mainly upon skim-milk and whey, until they can support themselves on hay and grass. His steers pay a proportional profit when sold at three to four years old.

"The English authorities say, that upon two cows calving at different times, seven calves may be fattened for the butcher in the course of the year. More than this may be done if the calves are to be reared for stock, and if some little addition of meal or vegetables is added to their feed.

"Mr. Jacques remarks, on the subject of raising calves, that 'he generally lets them take a portion of milk from the cows for about three months, and prefers keeping them in the stall until they are about a year old, thinking that he gets better forms, rounder barrels, straighter backs, greater broadness on the loin and hips, by this management."—*Farmer's Encyclopædia.*

Clotted or Clouted Cream.

Under the head of Butter, the process of making this preparation is described; but as the subject is one of particular interest to the American dairy, the following more detailed account is inserted, taken from the *Library of Useful Knowledge*, 2nd vol. *of British Husbandry.* The dairymaids of the western counties of England, think that clouted cream furnishes one-fourth more cream from the same quantity of milk than can be obtained in any other way. The process is simply this: "The milk while warm from the cow, is strained into either large shallow brass pans, well tinned, or earthen ones, holding from two to five gallons, in which should be a small quantity of cold water. This is thought to prevent the milk from burning, and to cause the cream to be more completely separated and thrown to the top.

"The morning meal of milk stands till about the middle of the day; the evening meal until the next morning. The pans are now steadily carried to, and placed over a clear, slow fire; if of charcoal, or over a stove, the cream is not so apt to get an earthy or smoky taste as when the milk is scalded over a turf or wood fire. The heat should be so managed as not to suffer the milk to boil, or, as they provincially term it, 'to heave;' as that would injure the cream. The criterion of its being sufficiently scalded is a very nice point; the earthen pan, having its bottom much smaller than the top, allows this point to be more easily ascertained; because when the milk is sufficiently scalded, the pan throws up the form of its bottom on the surface of the cream.

"The brass pan, if almost as big at the bottom as at the top, gives no criterion to judge by, but the appearance and texture of the surface of the cream, the wrinkles upon which become smaller and the texture somewhat leathery. In summer, it must be observed, the process of scalding ought to be quicker than in the winter, as in very hot weather, if the milk should be kept over too slow a fire, it would be apt to run or curdle.

"This process being finished, the pans are carefully returned to the dairy; and should it be the summer season, they are placed in the coolest situation; if on stone floors or slate benches, the better; but should it be the winter season, the heat should rather be retained, by putting a slight covering over the pans, as cooling too suddenly causes the cream to be thin, and consequently to yield less butter: the mode of making which, is this: the cream should, in hot weather, be made into butter the next day; but in winter it is thought better to let the cream remain one day longer on the milk. The cream, being collected from the pans, is put into wooden bowls, which should be first rinsed with scalding, then with cold water. It is now briskly stirred round one way, with a nicely cleaned hand, which must have also been washed in hot and then in cold water, for these alternate warm and cold ablutions of bowl and hand, are not only for the sake of cleanliness, but to prevent the butter from sticking to either.

"The cream being thus agitated, quickly assumes the consistence of butter, the milky part now readily separates, and being poured off, the butter is washed and pressed in several cold waters; a little salt is added to season it; and then it is well beaten on a wooden trencher until the milky and watery parts are separated, when it is finally formed into prints for the markets."

"If the quantity of cream be considerable, the cream will be an inch or more thick upon the surface, and it is then divided into squares and taken off. The remaining milk, however, contains little besides the watery particles in its original composition."—*Farmer's Encyclopædia.*

Gas Tar.—It will be recollected that a writer of some celebrity recommended the very free use of this ingredient, to keep off vermin; sowing it with seed, daubing it on trees, and various other applications. A doleful account of losses occasioned by it, appears in the same paper. A person dressed the trees in his orchard, three or four feet up from the ground with it. Apple trees began to fail, and died altogether, the bark of others rotted, and many suffered severely. This ought to be a caution never to try experiments, so often founded on theory alone, except on a very small scale. The Gas Tar kept away vermin, but it killed the trees. Theory said that it would keep off a plague; but the trial which proved its efficacy in that particular, sacrificed an orchard.—*Gardener and Practical Florist.*

Every farmer should supply his table with fresh meat from his poultry-yard, instead of the butcher's shambles. A butcher's bill presented once or twice a year, to be paid in cash, is a very annoying affair. With proper care it may be avoided as above. Some farmers dispose of their calves and lambs to the neighbouring butcher, and thus square off his bill; but this is not a good plan—they need the cash for this part of their stock, to pay the storekeeper's bill, &c.

Tulips.

It may be remembered that, some fifty years ago, the mania for tulips was exceedingly great all over Europe, particularly in France, and still more in Holland. A root, the *Semper Augustus*, was sold for 12,000 francs; a *Yellow Crown*, for 1,123 francs, and a chariot drawn by two handsome bays; a very middling tulip, the *Viceroy*, was sold for the following objects:—four barrels of flour, eight of rye, four cows, eight pigs, twelve sheep, two casks of wine, four of beer, two of butter, a thousand pounds weight of cheese, a bed with all its appurtenances, a bundle of wearing apparel, and a silver cup. At this period there might be seen in the public prints, under the head of foreign intelligence, such a paragraph as this—"Amsterdam.—Admiral Liefhens has flowered perfectly at M. Berghem's."

But we must not forget the story. One day it was discovered that tulips with a yellow ground were no longer beautiful, and that the admiration lavished on them for some time, had been bestowed on them most wrongfully; that the only tulips worth cultivating, were those with a white ground; that every yellow tulip ought to be rejected from every flower bed that had any respect for itself, and that their seed ought to be cast to the winds. The amateurs divided themselves into parties: letters, pamphlets, squibs, songs, nay, large volumes, were written on the subject. The amateurs of yellow tulips, were treated as pig-headed creatures; beings enveloped in the swathing-clothes of prejudice; illiberal, retrograding, awkward persons—enemies of enlightenment—nothing better than Jesuits.

On the other hand, the partizans of white tulips were branded as innovators, revolutionists, democrats, disturbers of the public peace, *sans-culottes*, mere youngsters.

Friends quarrelled, spouses were opposed, families were disunited. One evening that M. Muller was playing at dominoes with one of his earliest friends, an old schoolfellow, and a renowned horticulturist, like himself, the conversation turned on tulips—tulips yellow, and tulips white. M. Muller stood up for the yellow; his friend was a partizan of the white. Both gentlemen were men of good taste and knowledge of life, and always used the greatest moderation in their language, and avoided with great care coming to a discussion.

"Certainly," said M. Muller, "nature has done nothing in vain: there is not a single gem in her jewel-case which does not charm the sight: it is melancholy to see persons act on the principle of exclusion. I freely admit that there are certain tulips with white ground, that I would willingly admit into my collection, if my garden was more extensive."

"I also," remarked his friend, desirous of not remaining behind in politeness and concession, "I am ready to allow that the *Erymanthus*, yellow though it be, is a flower altogether presentable."

"I should not despise the *Unique de Delphos*, notwithstanding its white ground," remarked M. Muller.

"It is not very white," retorted his friend. "Not more than three or four days elapse before it frees itself from a yellowish tint which it has on opening its petals: in consequence we think but little of it."

"It is, however, the one of your collection that I should prefer."

The two friends were on excellent terms when Madame Muller quitted the room to get tea ready. It is difficult to tell exactly by what imperceptible transitions they departed from that condition to bitterness, to abuse, to insult; but so it is, that when Madame Muller returned to the room five minutes after, she found them under the table, holding each other by the hair, and cuffing away with all their might. M. Muller had thrown the dominoes in his friend's face, and thus the quarrel began. It may be guessed what sensations of shame seized on the two antagonists, when the first effervescence had subsided. The next morning M. Muller sat down and wrote to his friend:

"I am a wild beast, and an ill-bred man; receive my apology. Our old friendship will wipe out this moment of madness. My wife requests the pleasure of your company to dinner to-day. We shall have some of those Brussels sprouts you are so fond of.

Your friend, MULLER.

"P. S. You will oblige me, my dear friend, to put aside for me a few of your beautiful white tulips, for which I have reserved for next season, one of my best squares."

He immediately received the following reply:

"I shall be with you at a quarter before five. You will permit me, my excellent friend, to introduce to you a horticulturist, who is desirous of admiring your magnificent tulips."

Through a refinement of politeness, that both understood, M. Muller made a point of admiring the whitest of the white tulips, and his friend was not less polite, with respect to the yellow. However, this move-

ment of generosity on the part of M. Muller, could not always maintain itself at the same elevation. The ground in which the white tulips were placed was neither dug, nor manured, nor sifted, like that destined for those of yellow grounds. The second year, M. Muller took it into his head that they encumbered the ground; the third year they were placed under a gutter; and M. Muller, after having exhibited his yellow tulips in all their brilliancy, used to say to his visitors, "there are some of the finest of the white tulips; they have been given me by my friend Walter, and I prize them infinitely;" and when, ten minutes after, he added, "I cannot comprehend that any one can cultivate white tulips," every one was naturally of his opinion.—*Gardener and Practical Florist.*

From the Western Farmer and Gardener.

The Blight in Pear Trees.

To those who are interested in the growth of Pear trees, every idea thrown out for their preservation, is valuable. The following letter from the Western Farmer and Gardener, published at Cincinnati, Ohio, is from a practical man, though his own experiments do not appear to have been extensive. The editor has been invariably unsuccessful with his pear trees, of every kind, and in every soil on which they were tried. They would flourish finely for five or six years—bear once or twice, then begin to die at the end of the limbs—dwindle and perish. But let farmers persevere. Pears uniformly bring a good price in market. —Ed.

We have made the blight in pear trees a subject of inquiry for twenty-five years—have read every article on the subject we came across; and, as we travelled extensively in that time, have asked every practical farmer whom we thought likely to have any light upon the subject.

We are inclined to the opinion, that this blight is a kind of vegetable apoplexy or paralysis, caused by an over charge of fluids. You will generally see its ravages the worst of wet, growing seasons, under the influence of hot, scorching suns. Some of the facts which have led to this opinion are the following. All the pear trees which we have planted in a rich soil, where they have had a rapid growth, have flourished until they have approached the bearing state; about that time they were attacked with the blight, and after lingering a few years they have become entirely extinct, to the amount of some fifteen or twenty. About twenty-two or three years since, we brought a number of pear scions from Fairfield county, some grafted and some natural; we planted them all but two on a rich soil—white-oak flat, but they have all disappeared as above. With a view to there being more certainty for fruit, by having trees at different elevations, we planted two of the lot on a high southern exposure—soil thin and hard. They have had a slow growth, but are very healthy in appearance, though they have not borne much yet. About twenty years since, we procured a lot of scions from a natural stock, of good repute in Perry county. We put two of them in our front yard, on the brow of a hard, shelly bank or point, at an elevation of ten or twelve feet from the water course—southern exposure. They have had a slow growth, but are now some twenty-five feet in height—have been bearing for several years, and are remarkably healthy—not the least sign of blight as yet. While those from the same maternal stock which we planted in a rich soil, where they grew as much in four years as the others did in ten, have long since been entirely annihilated with that fatal disease.

We have an additional case yet, which, although it involves another principle, tends to the same result. About fifteen years since, we planted in our garden, in as rich a situation as nature and manure combined could produce, one "Philadelphia Butter Pear," which we had two or three years previous engrafted on a natural stock. This tree is of remarkably slow growth, and thus secures from nature the same advantage that others do from thin, hard soil. It began to bear as soon as the top was as big as a bushel, which, we believe, is some ten or more years since; and we do not recollect that it has failed to bear more or less every year since. It is now about fifteen feet in height, and has on this year what will make some two or three barrels of pears, if it meets with no mishap. There has never been the least sign of blight, until about a week since we discovered a limb on the top, of about twenty inches in length, struck with that disease, which we immediately removed, but since have discovered no further progress. An apple tree by its side, was at the same time considerably affected with the blight, the dead limbs being quite numerous on the latter.

The result of our experience, then, is, that fifteen trees or more, planted on rich soil, have every one disappeared with the blight many years since, with the exception of the Butter pear above, which had a slower growth on rich land than the others had on poor. And the four trees we planted on thin, hard soil, consisting of two varieties of natural fruit, have all lived, and so far done well, though their kind perished with the

blight, on soil which gave them a rapid growth. From these facts—and from the further fact, that all the examinations we have seen recorded on the subject, have never been able satisfactorily to attribute the blight to any species of lice or insect—we are inclined to the opinion, that it is owing to a surcharge of the fluids. We are aware that there are difficulties connected with this suggestion, to which we have not time to refer; but we make it for the consideration of those who have leisure to attend to the investigation.

The ill success we had with the pear, owing to the ravages of the blight, discouraged us from its cultivation, so that, for the last sixteen years, we have paid no attention to this kind of fruit, relying mostly on the apple, until a year or two back, encouraged by the few that have been saved from the blight, and the discovery that some soils are better adapted to the cultivation of the pear than others, we have recommenced attending to the pear again. We have procured several varieties from the nursery of Mr. Nicholas, of Belmont county, and have engrafted several kinds ourself.

We are of opinion that our practical men would do a good service to direct their attention to such kinds of the pear as are adapted to the climate, and proof against that fatal disease, the blight. The pear is, perhaps, the most delicious fruit that is cultivated, and he would do a great favour to the gratifications of the community, who would promote the cultivation of this rich luxury. We have no hesitancy in saying, that the Philadelphia Butter Pear above, is the best article of the kind that we have any knowledge of. In the *first* place, the tree seems to be free from the blight; in the *second* place, it is a good bearer, and begins very early to produce fruit; *thirdly*, it is the most delicious of the fruit kind that we ever tasted. It is so rich that a man of ordinary appetite cannot eat more than two or three when they are in a state of perfection. There are many varieties called Butter Pear, but this is the Philadelphia Butter Pear, and is said to be the best pear brought into the Philadelphia market.

C. Springer.

Meadow Farm, Ohio, June 13th, 1844.

The Philadelphia Butter Pear is said to be the same as the Virgalieu, or White Doyenné.

It is better to seek a good appetite for one's food, than to be curious to get good food for one's appetite.

Form and Constitution of the Cow.

It is well known that animals of the same breed fed on the same food, will yield milk not only in different quantities, but also of very different quality. In regard to the form, Mr. Youatt states that the "milch cow should have a long thin head, with a brisk but placid eye,—should be thin and hollow in the neck, narrow in the breast and point of the shoulder, and altogether light in the fore-quarter—but wide in the loins, with little dew-lap, and neither too full fleshed along the chine, nor showing in any part an inclination to put on much fat. The udder should especially be large, round, and full, with the milk veins protruding, yet thin skinned, but not hanging loose or tending far behind. The teats should also stand square, all pointing out at equal distances, and of the same size, and although neither very large nor thick towards the udder, yet long and tapering towards a point. A cow with a large head, a high back bone, a small udder and teats, and drawn up in the belly, will, beyond all doubt, be found a bad milker." Thus while much depends upon the breed, the form of the individual also has much influence upon its value as a milker.

But independent of form, the quality of the milk is greatly affected by the individual constitution of every cow we feed. Thus in a report of the produce of butter yielded by each cow of a drove of 22, chiefly of the Ayrshire breed—all of which we may presume to have been selected for dairy purposes, with equal regard to their forms, and which were all fed upon the same pastures in Lanarkshire, the yield of milk and butter by four of the cows in the same week, is given as follows:

	Milk.			Butter.	
A yielded	84	quarts,	which gave	3½	lbs.
F and R each	86	"	"	5½	"
G yielded	88	"	"	7	"

Showing, that though the breed, the food, and the yield of milk were nearly the same, the cow G, produced twice as much butter as the cow A,—or its milk was twice as rich. This result would have been still more interesting, had we known the relative quantities of grass consumed by these two cows respectively. I will not insist upon other causes by which the quality of the milk is more or less materially affected. It is said that when stall-fed, the same cow will yield more butter than when pastured in the field—that the age of the pasture also influences the yield of butter—and that salt mingled with the food, improves both the quantity and the quality of the milk.

There are probably, few circumstances which are capable in any way of affecting the comfort of the animal, which will not also modify the quality of the milk it yields.—*Johnston's Lectures.*

New York Agricultural Institute.

We learn from the N. Y. Farmer and Mechanic, that Dr. Gardner has made arrangements for the institution of a thorough Course of Agricultural instruction next winter, in the University of New York. The subjects of study are as follow:

"Agriculture.—This course is designed to communicate to the student all facts in Chemistry, Geology and Botany, which are useful to the farmer. So that being conversant with the characters and properties of the bodies wherewith he is engaged, he may be furnished with sound principles to guide his practice and improve his culture. The theories of Liebig, Tull, Payen, and Saussure will be canvassed, explained where they coincide with practice, and exposed where fallacious. The explanation of all processes for the improvement of the texture and drainage of lands, will be made on scientific principles.

"Improvements in the orchard, vineyard, and the cultivation of commercial staples, will be detailed. The collection, storage and preservation of grass, grain, fruits—the feeding and improvement of stock; the economy of making manures, will form prominent parts of the course.

"Mineral manures found in this and adjoining States, saline, vegetable, and animal manures, their comparative values, successful application, and causes of failure, with their economy, will be thoroughly examined and illustrated by appeal to decisive experiments. In short, all the topics usually embraced in the courses given by the professors of agriculture in European Colleges will be introduced.

"Analyses of soils, the ashes of plants and saline manures form another principal object of study. The student will conduct these analytical inquiries himself, so as to become proficient.

"It will be a constant object to familiarize the pupils with the method of applying principles to practice. To this end a series of cases will be prepared, in which the character of the soil, determined by examination, will be given to discover the necessary amendments. Thus a specimen of soil being introduced from a field, valuable from its proximity to market, it will be required of the student to point out the means by which it may be brought into a perfect state of fertility at the least expense. Thus they will be prepared to think for themselves and apply the facts of science. Students coming from remote counties should bring specimens of soil from home, to furnish profitable materials for examination during the winter.

"Chemistry as an abstract science, is taught by Professor Draper in the University, and can be attended in connection with the preceding studies.

"Anatomy and Physiology.—This course, directed more especially to an examination of the human body, is delivered by Professor Pattison in the University, and may be attended with profit to the student, if required.

"All the studies of the University are open to those who desire to pursue other courses of instruction.

"New York offers numerous advantages for the establishment of the Agricultural Institute. Many farms in the vicinity are in a high state of cultivation, market gardens, nurseries, orchards, vineyards and conservatories, abound near the city, and may be freely examined. Agricultural implements, and other appliances of the art, can be investigated; while the meetings of the Farmers' Club will offer a means of obtaining choice seeds, and much valuable local information. No where can the subject of manures be studied with equal success. Board and lodging will be found cheaper than in many villages; the students of the University seldom pay more than $2 50 to $3 00 for respectable accommodation.

"The *Institute* opens on the first Monday of November, and continues in session until the 1st of March following. The lectures and recitations will occupy two or more hours daily. This portion of the year has been selected to accommodate those engaged in farming, that they may not be drawn from their estates during the busy season.

"Fees for the course on Agriculture, $20. For Analysis, $30. For both, $40. The laboratory students will provide their own utensils, which cost about $5. Full laboratory course $100.

"The courses on Agriculture and Analysis, will be undertaken by the subscriber, with such assistance in the latter as may be found necessary.

D. P. Gardner, M. D."

Good buildings—good fences—good land—good stock—good implements, and a long purse, are among the requisites for the *beautiful*, in farming.

Premiums offered by the Agricultural Society of Newcastle County,

At the Fall Exhibition, Cattle Show and Ploughing Match, to be held at Wilmington, on Wednesday and Thursday, 11th and 12th of September, 1844.

HORSES.

For the best thorough-bred stud-horse, $10
do. next best do. do. do. Youatt on the Horse.
For the best stud-horse for field and road, $5
For the best pair of carriage horses, Turf Register, 1 year.
For the best saddle-horse, certificate of merit.
do. do. pair of work horses, $5
do. next best do. certificate of merit.
For the best thorough-bred mare, $5
do. do. mare for field and road, Youatt on the Horse.
For the best horse colt, from two to three years old, Farmer's Cabinet, 1 year.
For the best horse-colt, one to two years old, certificate of merit.
For the best mare colt, from two to three years old, Farmer's Cabinet 1 year.
For the best mare colt, one to two years old, certificate of merit.
For the best colt under 1 year old, certificate of merit.

CATTLE.

For the best bull, $5
do. second best do. Youatt on Cattle.
do. third best do. Farmer's Cabinet 1 year.
For the best cow, $5
do. second best do., the latest improved churn.
For the third best do., superior butter tub.
For the best pair of fat cattle, $5
do. do. fat steer, 3
do. do. lot of grass fed steers, not less than six in number, 10
For the best lot of fat heifers, do. do. 5
do. do. bull calf, from one to two years old, Youatt on Cattle.
For the best bull calf under 1 year old, Farmer's Cabinet 1 year.
For the best heifer calf, from two to three years old, Colman's Reports.
For the best heifer calf, from one to two years old, Youatt on Cattle.
For the best heifer calf, under one year old, Cultivator 1 year.
For the best lot of store calves, not less than six in number, Colman's Reports.
For the best pair of working oxen, $10
do. second best do. 5
do. third best, Colman's Reports.
For the best pair four year old steers, Youatt on Cattle.
For the best and best broke pair of steers, 3 years old, Farmer's Cabinet 1 year.

SHEEP.

For the best Long-woolled buck, Blacklock's Treatise on sheep.
For the next best Long-woolled buck, certificate of merit.
For the four best Long-woolled ewes, Farmer's Cabinet 2 years.
For the four next best Long-woolled ewes, certificate of merit.
For the best Short-woolled buck, Treatise on sheep.
For the next best Short-woolled buck, certificate of merit.
For the four best Short-woolled ewes, New England Farmer, 1 vol.
For the four next best Short-woolled ewes, certificate of merit.
For the four best lambs of any breed, 2 vols. Cultivator.
For the four next nest lambs of any breed, certificate of merit.

HOGS.

For the best boar over 1 year old, Farmer's Encyclopædia.
For the second-best boar over 1 year old, Farmer's Cabinet 1 year.
For the best boar under 1 year old, American Farmer 1 year.
For the best sow over one year old, Farmer's Ecyclopædia.
For the best sow under one year old, Farmer's Cabinet one year.
For the next best sow under one year old, American Farmer 1 year.
For the best litter of pigs, not less than five, Colman's European work.
For the next best litter of pigs, not less than five, American Farmer.

FARMS.

For the best farm, having regard to product, to economy in the working, and to arrangements of barns, shedding, &c., also to neatness in its management. Premium, a survey of the farm, designating each enclosure, enumerating the contents of each, also locating handsomely on the plot, the different buildings.

COMPOST MANURE.

To the person who shall make the most satisfactory, and in the judgment of the committee, the most useful experiment in composting manure, not less than 100 loads of 40 cubic feet, before October 1st, 1844.

CROPS.

For the best crop of wheat, not less than 30 bushels per acre, and not less than five acres, $10

For the next best, not less than two acres, 5

For the best crop of corn over 70 bushels per acre, and not less than two acres, 10

For the next best do. Farmer's Cabinet one year.

For the best crop of oats, over 60 bushels per acre, and not less than four acres, $5

For the next best do. Farmer's Cabinet one year.

For the best crop of grass, making not less than two and a half tons of hay per acre, nor less than three acres, Colman's Reports.

For the best crop of potatoes, not less than 300 bushels per acre, not less than one acre, Farmer's Encyclopædia.

For the best crop of ruta-baga turnip, of one acre or more, not less than 800 bushels per acre, Colman's Reports.

For the best crop of sugar-beet, of half an acre or more, and not less than 25 tons to the acre, Colman's Reports.

For the best crop of flat turnips, quarter of an acre or more, not less than at the rate of 300 bushels per acre, Farmer's Cabinet one year.

For the best crop of Sweet potatoes, not less than quarter of an acre, Farmer's Cabinet one year.

For the best field of potatoes, not less than three acres, Colman's Reports.

BUTTER AND CHEESE.

For the best new milk cheese, Colman's Reports.

For the best fresh butter, not less than five pounds, Youatt on Cattle.

For the next best do. Farmer's Cabinet one year.

For the best potted or preserved butter, not less than 20 pounds, not less than two months old, Colman's Reports.

For the next best do., three stone water pots.

CULINARY VEGETABLES.

For the best and greatest variety of garden vegetables, $10

For the second best do. 5

For the third best do. Colman's Reports.

For the best cabbage, not less than six heads; to be produced on or before the Fall Exhibition of 1844, Bridgman's Gardener's Assistant.

For the best cauliflower, not less than three heads, Vegetable Physiology.

For the best kale, not less three bunches, of one pound each, to be produced by November 21st, 1844, Farmer's Cabinet one year.

For the best half peck of onions, raised from the seed, Farmer's Cabinet one year.

For the best bunch of onions, certificate of merit.

For the best tomatoes, not less than one peck, certificate of merit.

For the best egg plants, not less than half a dozen, certificate of merit.

FRUITS.

For the best fall pears, not less than half a peck, to be produced on or before November 21st, 1844, China fruit basket.

For the best winter pears, not less than half a peck, to be produced between the 1st and 17th of March, 1845, China fruit basket.

For the best native grapes, not less than four bunches, to be produced between the 17th and 22nd of October, 1844, Bridgman's Gardener's Assistant.

For the best plums, the least liable to injury from insects, not less than two dozen, to be produced on or before the 5th of October, 1844, Farmer's Cabinet one year.

For the best quinces, not less than half a peck, to be produced at the Fall Exhibition of 1844, Cultivator one year.

For the best peaches, not less than half a peck, to be produced at the Horticultural Exhibition, a handsome fruit basket.

For the best apples, not less than half a peck, Farmer's Cabinet one year.

For the second best apples, certificate of merit.

FLOWERS.

For the best varieties of Camellias, to be produced to the Society by March, 1845, certificate of merit.

For the best varieties of Hyacinths, to be produced to the Society on or before May 20th, 1845, certificate of merit.

For the six best varieties of Tulips, to be produced on or before May 20th, 1845, certificate of merit.

For the six best varieties of Dahlias, to be produced on or before October 20th, 1844, certificate of merit.

For the ten best varieties of Chrysanthemum, to be produced on or before Nov. 21st, 1844, certificate of merit.

For the best bouquet exhibited at the exhibitions of the Society, certificate of merit.

For the introduction of any new and valuable seeds, fruits or plants, presented to the Society during the years 1844–5, a silver medal of the value of three to five

dollars, at the discretion of the Board of Directors.

SILK.

For the best reeled raw silk if approved, not less than a pound, a premium Silk reel.
For the heaviest and best cocoons, excluding double ones, not less than five pounds, Treatise on Silk.

AGRICULTURAL IMPLEMENTS.

For the best plough, certificate of merit.
For the best Drilling Machine, do.
For the best Grain or Grass Sowing Machine, certificate of merit.
For the best Mowing or Reaping Machine, certificate of merit.
For the best Straw and Hay Cutter, certificate of merit.
For the best Root or Vegetable Cutter, certificate of merit.
For the best Corn-sheller, certificate of merit.
For the best display of Agricultural implements, certificate of merit.
For the best Threshing Machine, certificate of merit.
For the best farm and road wagon, certificate of merit.
For the best cart, certificate of merit.
For the best and most convenient harvest bed on wagon or cart-wheels, certificate of merit.

Any newly invented Agricultural apparatus will be entitled to an appropriate premium.

MAIZE SUGAR.

For the largest quantity of sugar, having regard to quality, not less than 20 pounds, manufactured from corn stalks, Colman's Reports.

AMERICAN MANUFACTURES.

For the best American "Russia iron," certificate of merit.
For the best piece of fine broad cloth, certificate of merit.
For the best lot of casinetts, not less than three pieces, certificate of merit.
For the best lot of fine satinetts, not less than three pieces, certificate of merit.
For the best specimen of cotton goods, certificate of merit.
For the best ingrain piece of carpeting, certificate of merit.
For the handsomest and best made saddle and bridle, certificate of merit.
For the handsomest and best set of single or double harness, certificate of merit.
For the best lot of edge tools, certificate of merit.
For the best constructed cooking stove, certificate of merit.
For the best lot of cabinet furniture, not less than three pieces, certificate of merit.
For the handsomest and best parlor stove, certificate of merit.
For the handsomest and best made marble mantle, certificate of merit.
For the handsomest and best made boots and shoes, three pair of each, certificate of merit.
For the handsomest and best manufactured hat, certificate of merit.
For the handsomest lot of manufactured silver ware, certificate of merit.
For the best and most convenient four wheel carriage or dearborn for family use, and having regard to cost, certificate of merit.
For the handsomest and best specimen of castings, certificate of merit.
For the best sample of coach or shoe leather, certificate of merit.

☞ All to be made in Newcastle county.

PLOUGHING MATCH,

For horses and oxen, to take place on the 2nd day of the Exhibition.

For the best ploughing, $10 and Farmer's Cabinet one year.
For the best edge furrow ploughing, $10.
For the best flat furrow ploughing, $10.
For the second best edge furrow, Colman's Reports.
For the second best flat furrow, Farmer's Encyclopædia.

Claims for the premiums on crops must, in every instance, be accompanied with a statement of the condition of the ground before commencing, and then the whole process of tillage; and the measurement must be of the whole crop by the half bushel, and certified in writing by the applicant. Crops to be entered as early as the day of exhibition—applications to be acted on by the committee any time before the 1st of January, 1845.

No animal shall take the same premium a second time.

All articles exhibited will be returned to contributors unless otherwise directed.

If, of any article for which a premium is offered, no specimen be submitted worthy of distinction, the Society reserves the power to withhold the premiums, and in all cases where premiums shall be demanded, they will require such evidence from the claimants as shall be satisfactory to the directors. No person shall be entitled to a premium for any animal which he shall not have had or possessed at least six months immedi-

ately preceding the time of exhibition. It is to be distinctly understood, that all grain, vegetables, &c., produced for competition, shall be the growth of the producer.

All premiums not demanded within sixty days after they shall have been awarded, shall be deemed as having been relinquished to the Society. The object of the Society in offering these premiums, is simply to excite a spirit of emulation amongst cultivators to improve the varieties of fruits, vegetables, and other productions. It is desirable that each kind of fruit offered for competition may be as numerous as possible, regard being had to produce none but of fair quality. Each article should be accompanied by its appropriate name. It is also desirable that the articles exhibited should be accompanied by short observations on the mode of culture, with any other remarks deemed to be of utility.

The judges are authorised to withhold premiums where none is entitled to distinction; and where but one of a class is exhibited, they will award such premium as they think it merits. Those who intend to compete, must inform the Committee of Arrangement before 11 o'clock on the day of exhibition.

All stock, &c., exhibited, must remain on the ground during the exhibition; and all stock intended for sale, will be required to be registered in a book provided by the Committee of Arrangement, at the following rates: For each horse, $2; for neat cattle, $1 each; for hogs and sheep, 50 cents each.

Articles that are designed to compete for premiums, will be produced when practicable, at the annual exhibitions of the Society. Perishable articles may be offered at any of the meetings of the Society, or at those of the Directors, which take place on the afternoon of the second Saturday of every month in the City Hall; or they may be subjected to the inspection at any time, of either of the following committee appointed for that purpose, viz:

Dr. J. W. Thomson,
Merritt Canby,
Samuel Hilles,
Philip Reybold,
Anthony M. Higgins,
Ziba Ferris,
W. J. Hurlock.

The Society will dine together at three o'clock. All members *not* in arrears to the Society, will receive their tickets to the dinner free of charge. The Annual Address will be delivered by J. S. Skinner, Esq., of Washington, at John Hall's Hotel, immediately after dinner.

Meeting of Agricultural Society.

A stated meeting of the Philadelphia Society for promoting Agriculture, was held on the 3rd inst., Dr. James Mease president in the chair—present twelve members.

The committee appointed at last meeting to arrange a list of the different animals, implements, produce, &c., for which premiums are to be offered at the Exhibition about to be held by the Society in October next, made report, which on motion was ordered to be published.* Dr. Emerson, chairman of the Committee appointed to examine the plan of a Bone-crushing Machine, offered by W. Hasler & Co. of this city, made favourable report of the same, which led to an animated discussion on the subject of the use of bone-dust, or ground bones as a manure; Dr. Emerson stated his strong conviction of their usefulness, from experiments made on his farms in Delaware, for several years past. Mr. Gowen also expressed his decided belief in the great utility of the article. Some other gentlemen present observed that they had not noticed any great advantage in their application; a different mode of using them might have produced different results. The following resolution was offered by Dr. Emerson, which on motion was adopted. "Resolved, that the Committee of Arrangement be authorized to offer a premium of $50, for the best machine for crushing bones for farming purposes, with the addition of the necessary horse-power. The said machine to be capable of being used by farmers, and with the horse-power not to cost over $300."

Dr. Elwyn read an account of some experiments made by Dr. Bridges of this city, on the properties of anthracite for absorbing gaseous ammonia, like ordinary charcoal, whereby it may become a great fertilizer of the soil. An interesting discussion took place on the subject of the use of Guano as a manure, the wonderful effects of which had been discovered in England and Scotland.

A specimen of clover seed from the river Rhine, was presented by A. Clement. It is said to grow to the height of two and a half to three feet; may be cut three times during the season, and continues to produce well from seven to nine years. When cut for hay, the leaves do not fall off as from other clover. The seed can be obtained from the second crop. It is also said that cattle are not injured by over feeding on this as on other clover.

Aaron Clement,
Recording Secretary.

July 5th, 1844.

* See last No. of the Cabinet, p. 380.

Atmospheric Rail-way.

While steam was apparently having the field to itself in relation to rapidity of travel, electricity comes in, and runs ahead of all calculations, in its faithful transmission of intelligence by machinery. Latterly there is considerable interest manifested in England, on the subject of atmospheric Rail-ways. We give below, a tolerably lucid description of this contrivance from the Westminster Review. In Minor's Rail-road Journal for the present month, is an article of considerable length, being the main part of an Essay on the adaptation of atmospheric pressure to the purposes of locomotion on Rail-ways, accompanied by very neat drawings illustrative of the working of the machinery. That there should be much diversity of opinion among professional men in relation to the practical operation of the atmospheric system, is not at all surprising. Time and experience will test the whole matter. The Rail-road Journal shows that a saving in England, of upwards of £22,000 per mile, may be made in the construction of the atmospheric, instead of the common Rail-way; and that the transportation which will cost by locomotive power more than £4,000, need cost on the atmospheric way, but about £1,600. The Journal of the Franklin Institute, for last month, meanwhile, gives an article from the London Rail-way Magazine, demonstrating that what costs on the Great Western Rail-road but £357, and on that of London and Birmingham £575, will cost on the atmospheric road, £1,300.—Ed.

The speed of the atmospheric mode of travelling, as far exceeds that of the locomotive plan, as the locomotive speed exceeds that of the stage-coaches; this mode also reduces the expenses one half, which the locomotive system does not, it being as expensive, or more so, than the coaches. To describe the atmospheric rail-way in all its detail, would occupy more space than we can devote to the subject, neither would such a description suit the general reader; the following particulars must therefore suffice:—Along the entire line, and between the rails, runs a pipe, which, on the Kingston and Dalkey line, is fifteen inches inside diameter. Along the entire length of this pipe is a slit or opening, through which a bar passes, connecting a piston,—which moves freely in the pipe—with the carriage outside. The opening at the top of the pipe is covered with a leather strap, extending the whole length of the pipe, and two inches broader than the opening. Under and over this leather strap are riveted iron plates, the top ones twelve inches long, and half an inch broader than the opening, the bottom ones narrower than the opening in the pipe, but the same length as those of the top. One edge of the leather is screwed firmly down, like a common bucket-valve, and forms a hinge, on which it moves. The other edge of the valve falls into a groove; this groove or trough is filled with a composition made of bees'-wax and tallow, well worked by hand, so as to make it pliable and tough before spreading it in the groove; this composition being pressed tight against the edge of the leather valve which rests in the groove, makes the valve air-tight, or at least sufficiently so for all practical purposes. As the piston is moved along the pipe by the pressure of the atmosphere, that side of the valve resting on the groove is lifted up by an iron roller fixed on the same bar to which the piston is attached, thus clearing an opening for the bar to pass as it moves along. The opening thus made allows the air to pass freely behind the piston; the disturbance which takes place in the composition by the lifting of the valve, is again smoothed down and rendered air-tight, as at first, by a hot iron running on the top of the composition after the valve is shut down. This has actually been done when the piston was travelling at the rate of seventy miles per hour, and it was smoothed down air-tight, after it, by the iron above mentioned. It is contemplated to place stationary engines along the line, about three miles apart; at each engine or station there is an equilibrium valve fixed in the pipe, so that each three miles or section of pipe can either be exhausted or filled with air, independently of the other sections. The equilibrium valve is made to move freely, out of the way of the piston, by the carriage while passing over it, so that the train passes from one section of pipe to another, without any stoppage. It is evident, that as the tractive force is derived from the pressure of the atmosphere on the piston, the amount of the force or pressure will depend upon two causes, i. e., the extent of exhaustion on one side of the piston, and the area of the piston itself.

To make blue-wash for walls.—Get a pound of blue vitriol from a drug store, and have it powdered in a mortar. Provide also, two quarts of lime. Take six cents worth of glue, boil it in a quart of soft water till thoroughly dissolved. Put the powdered vitriol in a wooden bucket, and when the glue-water is cold, pour it on the vitriol, mix and stir it well. When the vitriol is dissolved in the glue-water, stir in by degrees the two quarts of lime. Try the colour by dipping in a piece of white paper, and when dried, you can judge if the colour is as blue as you want. If too pale, stir in a little more powdered vitriol. It is well to provide an extra quantity of each of the articles, in case a little more of one or the other should be required.—*N. England Farmer.*

Pigs Sucking a Cow.

For several weeks in succession our dairy-maid complained that our best cow was deprived of her milk by some foul means. That when she came from pasture she had just been milked, and that the udder was still wet. I could accuse no one but a tenant who lived near the lane through which they passed, and which was generally open from the cow-yard to the pasture. The accusation was denied with evident surprise. At length I determined to watch the cattle on their evening walk from their pasture, and you may judge my surprise, when I observed that on the cow mooing as if in search of her calf, about fifty yards distant from the yard, four shoats, three months old, ran squealing down to meet her at their utmost speed. The cow remained in the rear of the others, and quietly and patiently stood still till every drop of milk was extracted from her udder by the pigs; they *standing* the while erect on their hind legs, with each a teat in its mouth. The place for the operation was most favourably selected, as small apple-trees interposed between the parties and the house, which stands upon an elevation. The extraordinary thrift of my pigs, which all along was so discernible, was now accounted for; and I learned a lesson which shall never be forgotten through life, viz., never to make accusation on mere circumstantial evidence, unless strongly corroborated.

I shut my pigs in a pen immediately. The next morning the cow appeared as uneasy without their visit as if she had lost a calf, and the pigs squealed in answer, as if they had been deprived at the time of their mother.—*Christian Intelligencer.*

Fruit in Cincinnati.—The Cincinnati Atlas says, "It is estimated that the market has been supplied with one hundred bushels of large delicious strawberries daily, for three or four weeks past. The raspberry is now succeeding the strawberry in about the same quantities, and the blackberry will succeed the raspberry in the like profusion. There are strawberry patches in the neighbourhood containing about twenty acres, cultivated by a single individual, and gardens of the same size devoted to the raspberry. These berries sell at the stalls in the market, at five to ten cents per quart. They form a standing dish on most of the tables of the wealthy and middle classes: and none so poor, but they are more or less supplied. We have melons and peaches in great abundance during the season; and as for apples, we challenge the world to match us." A late committee from the Horticultural Society of that city, appointed to ascertain the statistics in relation to the growth and sale of strawberries in Cincinnati and its vicinity, has reported, that in pursuing their investigations they had found in the market, during one day in the last week of May, 235 bushels of this fruit; and this was exclusive of the large quantities bought by the hotels, and also of those brought into the city after market hours, and hawked about the streets.

Anecdote of a Mandarin Duck.—Of this bird Mr. Beale related several anecdotes, which prove it not destitute of sagacity. Upon one occasion, one of these birds was for a few days removed from the aviary: his mate seemed almost inconsolable, sitting by herself near the brink of the fountain, apparently in sorrow at the loss she had sustained. Another duck—a gay and dashing fellow—attempting to pay his addresses to the forlorn one, *ducking* around her, and whispering, doubtless, many flattering things in her ears; but the faithful bird heeded not the charmer, and seemed highly to resent his assidious attentions. At length the absent one was restored to the aviary; when, after a few moments, the duck was observed in close confab with her mate, which seemed much ruffled at her recital; and no sooner was it ended, than, advancing straight to his rival, a furious battle ensued, and ere they could be separated, the injured bird had laid the aggressor dead at his feet.

Saving Flower Seed.—Instead of saving seed from any blooms that may chance to remain on, it should be saved from the best well formed early flowers. The proper way is to mark good flowers as soon as they can be found. and let their seeds ripen well before they are gathered. Let them be from good double flowers. When the seed is rubbed out, only the few outside rows of seed should be used: those which come from the centre or disk, will almost always come high. There are no means so effectual as making the best early blooms of the best varieties, and relying on those pods of seed only.—*Gardener and Practical Florist.*

Good buildings—good fences—good land—good stock—good implements, and a long purse, are among the requisites for the *beautiful*, in farming.

For the Farmers' Cabinet.

Deep Ploughing.

The impression among unreflecting farmers is almost universal, that the value of deep ploughing consists in the increased amount of soil in which the roots may vegetate. Whatever advantage the greater amount of loose soil may be, it is by no means the most important one. We all know, that growing grain suffers from extremes of heat and cold, wet and drought. Late in the fall, when we always have rain, the six inches of vegetable soil are soon filled with water, and perhaps the cold of the succeeding night freezes it, and thus are the roots of your wheat embedded in ice, to suffer during the approaching winter. But if the land had previously undergone the operation of a "*Prouty and Mears*," nine inches deep, followed by a *subsoil-plough*, nine inches more, the rain had scarcely ceased to fall until it had sunk beneath that surface which the roots occupy. In a soil six inches deep, with a hard limestone subsoil, rain has no place to go; but in eighteen inches or less, its own weight sinks it below the possibility of doing harm. And while you thus have your wheat secured for the winter, in a comparatively dry soil, clear of ice and its evil consequences, in the spring you have a vigorous plant, free from the sallow sickness of an icy bed, prepared to take advantage of the first genial sun which the spring brings with it. And now, from this period until harvest, the hopes and fears of the farmer are controlled by the season: too much wet drowns his wheat; too much heat blasts it with mildew, and drought prevents it from filling. Deep ploughing obviates all these contingencies. Wheat is drowned out, because its roots are in the water; mildew blasts it, because the hot sun beats upon a surface saturated with water, and produces a sudden flow of sap in the plant, which is unnatural; and it is the more destructive, because the constitution of the plant has previously suffered from one of the extremes of cold, wet or drought: your wheat does not fill, because, perhaps there is not moisture enough in the earth to replenish the plant;—but if your loose soil be deep enough, no matter how much or how long it rains it will have scarcely ceased until the roots are relieved. Pour a bucket of water upon a sponge, and you have but just quit pouring until the upper surface is comparatively dry; so it is with the spongy earth, the water's own weight takes it immediately below the place where harm is done, not to be lost, but to remain there as a reservoir, to replenish the thirsty plant through that season when drought so often does its destructive work. In our limestone land, a rain may fill the six inches of vegetable soil, and when full, so hard and impervious is the subsoil, that the residue runs into the hollows, and its place of escape among the sink-holes and crevices of the rocks:—the heat of a week's sun dries this up, and the wheat requires more rain, and it suffers. But if you have twelve inches of water in your reservoir below, there it remains to answer the drafts of a six or eight weeks sun, with that regularity of moisture which the plant requires, and which brings you through all the contingencies of heat and cold, wet and dry.

W.

Carlisle, 4th August, 1844.

THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK.

PHILADELPHIA, EIGHTH MONTH, 1844.

THE 8th volume of the Farmer's Cabinet closed with the last number: the 9th commences with this month.

It is now a year since the present proprietor took the concern entirely into his own hands; and while he was determined to devote himself to its interests, he felt that he would have continual occasion to make drafts upon the liberality and kindly feeling of his subscribers. He was aware that his inexperience in his new position, might not unfrequently expose him to embarrassment. He felt also, that however ambitious he might be, to edit a paper which the agricultural part of the community should cheerfully acknowledge to be of public utility, and with which himself should feel satisfied, his ability to do this did not so much depend upon himself, as upon the active and efficient aid which he confidently hoped would be rendered by his friends. This hope has to a very considerable extent been realised: yet it would afford the Editor much pleasure to find at the close of the coming volume, that the frequent contributions of his correspondents had made it more valuable than any of those which have preceded it. It is not in the calculations of the Editor to sit in his office and prepare unassisted, such an Agricultural Journal as the country shall be satisfied with. He relies upon the help and the experience, and the facts, and the speculations of others. He promises, so far as his judgment will enable him to do it, to make his selections of a character that shall always instruct—but he takes this opportunity to urge upon the readers of the Cabinet, to make it rich in original matter, and to remember that he depends upon them to do so.

We may also remark, that our subscription list is not so well filled up as it ought to be. Does not every subscriber feel that he might do something in this matter? and that his interests as well as our own, would be promoted by circulating more widely a paper, industriously devoted to the substantial agriculture of the United States.

William Crispin, of Gloucester co., N J., brought to this office a few weeks ago, from his farm on Timber creek, several famous stalks of Timothy, some of which were five feet seven and a half inches in height, with heads ten and a half inches long. The stoutest stem of Timothy we have ever seen, was a solitary one found in the woods several years ago, near a ravine. It was about five feet nine inches in height, with a splendid head ten inches in length.

The Annual Fair and Cattle Show of the New York State Agricultural Society will be held at Poughkeepsie, on the 18th and 19th of next month. Those which have heretofore been held at Albany, Syracuse and Rochester, have been largely attended, and have been objects of strong interest to the farmer. Adequate preparations are making to render the approaching Show equal to any which have preceded it; and as it is easy of access to persons from a distance, many will doubtless be drawn thither.

The Washington Reporter, published at Washington, Pa., says the crop of wool in that county, the present season, has been large, amounting to at least 800,000 lbs.; and that the market has been unusually brisk for some weeks past. It has been generally taken up by dealers in that county and in Pittsburgh, at an advance of 30 or 40 per cent. on last year's prices. Three hundred thousand dollars make no trifling sum to scatter among the farmers of a single county, for one single article of its produce: a county too, which claims to be but little behind any other in the State, in the largeness of its grain crop.

On the 25th ult., we saw for the first time this season, in our markets, sweet potatoes from Jersey, of quite a respectable size.—Price eight cents per pound. This is rather earlier than usual for the appearance of this excellent vegetable. The season, as we all know, has been perhaps ten days more forward than ordinary.

It is stated in one of the New York papers, that $900 freight were received in one day, two or three weeks ago, by the New Jersey Transportation Company, on the article of green corn alone. A friend of ours in the vicinity of Portsmouth, Va., who removed from New Jersey, informed that he paid last season, upwards of $1,200 freight on his vegetables to the Philadelphia market.

The proprietor of the "American Farmer," published at Baltimore, being about to enter upon other engagements which will very much occupy his time, is desirous to dispose of his well known establishment. The American Farmer is the oldest Agricultural paper in the country, it being more than a quarter of a century since it was commenced by J. S. Skinner, that veteran friend of the farming interest, "chiefly as a vehicle for the outpourings of his own crude notions of what might be done to improve the processes and implements of American agriculture, to meliorate our domestic animals and fruits and vegetables, and to vindicate and elevate the cause of agriculture, as a great and neglected national interest." It was long and ably sustained by him, and has been in the hands of Samuel Sands, its present proprietor, one of our best conducted papers.

The kindness of the publisher Laurens Wallace, No. 25 Minor street, in this city, has placed in our hands a very neat copy of the fourth edition of Ruffin's Essay on Calcareous manures. It is not designed to give at present anything like a synopsis of this well known work. We have in the course of our labours, many times referred to it, and availed ourselves of its contents, and would recommend to every practical farmer to acquaint himself familiarly with them.

In the concluding paragraph of the first edition, published in 1832, is the following remark: "My task is completed. Whether I shall be able to persuade my countrymen to prize the treasures and seize the profits which are within their reach, or whether my testimony and arguments shall be fruitless—soon or late, a time must arrive when my expectations will be realized. The use of calcareous manures, is destined to change a large portion of the soil of lower Virginia from barrenness to fertility." These sanguine expectations, so beautifully expressed twelve years ago, their writer has now the satisfaction of beholding in good measure answered. This is plainly shown by the statements* which he made at a *Farmers' dinner*, given him near the close of last year, by his old friends and neighbours of Prince George county. And thousands are prepared to acknowledge that no man has laboured more industriously or more availingly for the agriculture of Virginia, than Edmund Ruffin.

We keep on hand at this office, and will supply our friends with Agricultural works generally. Among which are

THE FARMER'S ENCYCLOPEDIA, full-bound in leather;—Price	$4 00
YOUATT ON THE HORSE, with J. S. Skinner's very valuable Additions;	2 00
BRIDGEMAN'S GARDENER'S ASSISTANT;	2 00
THE AMERICAN POULTRY BOOK;	37½
THE FARMER'S LAND MEASURER;	37½
DANA'S MUCK MANUAL;	60
Complete sets of the FARMERS' CABINET, half-bound, 8 vols.	6 50
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SKINNER'S CATTLE DOCTOR,	50
AMERICAN FARRIER,	50
THE FARMER'S MINE,	75
JOHNSTON'S Agricultural Chemistry,	2 25
LIEBIG'S AGRICULTURAL CHEMISTRY,	25
" ANIMAL CHEMISTRY,	25
" FAMILIAR LETTERS,	12½

As well as his larger works on Chemistry and Agriculture.

Subscriptions will be received for Colman's Agricultural Tour in England and on the Continent.

☞ We are prepared to bind books to order.

☞ SHORT ADVERTISEMENTS, ☜

The subject matter of which, may correspond with the agricultural character of this paper, will be inserted at the rate of one dollar for each insertion of ten lines or less; and so in proportion for each additional line.

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* See last vol. of Farmers' Cabinet, p. 270.

In an Address lately delivered before the Agricultural Society of Fort Mitchell, Alabama, General Hamilton says he planted this year twelve hundred acres of cotton, and that he manured six hundred of it. The remainder was planted in a rich virgin soil, which needed no manuring. He also says Madder is beginning to attract the attention of the most intelligent of our agriculturists, as a staple adapted to our soil and climate, and susceptible of a moneyed return vastly transcending the culture of cotton. His Address appears in the Southern Agriculturist of the present month. Valuable information in relation to Madder, will be found in our last volume, pages 54 and 119.

The last number of the Cultivator says that M. Van Buren, the ex-president, raises on his farm, near Kinderhook, what is called the *Carter* potatoe, which was produced a few years ago by the Shakers, from a ball. He considers them a very valuable potatoe, yielding well, and in quality equal to any other.

Dr. Beekman, president of the New York Agricultural Society, has tried several experiments to ascertain "whether lime would kill sorrel. After a lapse of two years, no effect whatever has been discoverable, either for, or against the sorrel, or any other plant."

A private letter dated Salem, Iowa, the 30th of Sixth month, gives an unfavourable account of the wheat crop of that district. "The long continued rains," says the writer, "have not only raised the streams almost beyond bounds, but have also drowned the wheat on the flat lands; and on the high lands the wheat is not flattering. Of oats, there is any quantity. The corn is very small. Some farmers have ploughed it up where it had been replanted two or three times, and been as often drowned out by the great rains." From various accounts it appears that the damages and sufferings on the Mississippi and its branches, from the unprecedented rise of the waters, have been indeed appalling. It is of course, impracticable to estimate with even a show of accuracy, what these damages may amount to in a pecuniary point of view. Calculations however, have been made, which set them down at ten or twelve millions of dollars. Whole estates have been inundated—the buildings on them, swept down the streams—and the occupants hurried to their last long homes.

The Ledger says some French capitalists have made arrangements to enter spiritedly upon the cultivation of the vine in Louisiana; after carefully exploring many parts of that State and Mississippi, they have determined to locate themselves on Beaver creek.

As we were entirely unable to satisfy the demand for Poudrette last spring, and as the fall sowing of wheat is close at hand, when the demand will again be brisk, we remind those who wish the article, to attend to it early. The accounts in relation to its use, so far as they have reached us, have very generally been favourable. In a note from D. S., at Burlington, N. J., who the other day, ordered four barrels for his turnips, and who had previously had twenty five barrels last fall and spring, it is remarked, "the last I had shows to the admiration of all who see its effects, particularly where it was put into the corn-hills at the time of planting. That which I put on the wheat last fall also, has nearly or quite doubled the crop."

This, so far as we have learned, is very decidedly, a *fruit* year. Our markets are filled to overflowing, with every variety in its season, of the finest quality. We trust our country friends will attend in earnest, to securing a full supply of *good vinegar*. One would conclude that with the abundance of apples which occasionally bear down our orchards, there should never be a scarcity of this article. There need be no difficulty in its manufacture: it is one of the simplest processes. Indeed, nature and time will effectually do the work, if the cider be not improperly weakened. It was the plan of the Editor for many years, while on his farm, constantly to keep in an out-house, three vinegar casks—a hogshead, a barrel, and a five gallon keg: and he has no recollection of ever being without No. 1, on his table in the country. The keg was drawn out of for family use, and there was a care to keep them all, one-half or two-thirds full. The bungs should be but loosely put in their place, so as not to exclude the air, or a piece of gauze may be secured over the bung hole, to admit the air and exclude insects, &c. It is best to keep the casks only partly filled, as there is then a greater surface exposed to the atmosphere. Frequent shaking, or drawing off from cask to cask, exposes the liquor to the action of the air, and hastens the necessary fermentation. With due care, the farmer who has apples, need never be without good vinegar on his table; nor is it at all necessary that our citizens should have so much difficulty in obtaining it. It is wholesome and agreeable with many kinds of food, and eight or ten, or twelve cents a gallon, by the large quantity, will well repay the farmer for the manufacture. Who would relish corned beef and cabbage with second-rate vinegar?

In a letter recently come to hand from Goshen, Ohio, dated the 4th of last month, it is said the wheat, oats, potatoes and grass of that vicinity, promise well; but the corn was greatly injured by "the *wire* worm, which," says the writer, "has been making sad work for several years, and appears to be increasingly mischievous. It is a yellow, hard worm, about an inch long and size of a knitting needle: it works itself into the heart of the corn before it is up, and afterward collects around the roots, and seems to take away the juices, so that the corn makes but little progress in growing. Can any of the correspondents of the Cabinet, hit upon a remedy? Unless means are found to stop the work of this insect, some of our farmers talk of abandoning the crop of corn altogether. I am now trying on my farm as an experiment, a strong solution of arsenic, indigo and copperas separately, having steeped the corn fifteen hours." We shall be glad to be advised in relation to the habits of this worm, and of any means for a remedy against its very serious mischief. Our correspondent will please report the success of his experiments.

We have seen it stated that arrangements are in progress to extend the Electric Telegraph to this city, New York and Boston.

PHILADELPHIA SEED STORE,

No. 23 MARKET STREET.

M. S. Powell keeps a constant supply of Clover and other Grass Seeds. Field Seeds, consisting of prime Seed wheat, Buckwheat, Millet, Oats, Corn, Rye, &c.

☞ GARDEN AND BIRD SEEDS generally.

July 15th, 1844. tf.

POUDRETTE—a valuable manure—of the best quality, prepared in Philadelphia, for sale at the office of the Farmers' Cabinet, No. 50, N. Fourth street, or at the manufactory, near the Penitentiary on Coates' street. Present price, $1 75 per barrel, containing four bushels—$5 for three barrels—$15 for ten barrels, or thirty cents a bushel. Orders from a distance, enclosing the cash, with cost of porterage, will be promptly attended to, by carefully delivering the barrels on board of such conveyance as may be designated. Farmers to the South, and in the interior, both of this State and New Jersey, are invited to try the article. As a manure for turnips, buckwheat, &c., it has been used to great advantage. The season for applying it to the wheat crop, is now at hand. Those who contemplate using it this fall, would do well to secure it early. Josiah Tatum.

PHILADELPHIA AGRICULTURAL, HORTICULTURAL AND SEED WAREHOUSE.

No. 194½ Market street, between Fifth and Sixth streets, South side.

For sale as above, at wholesale and retail, a complete assortment of Farming tools, among which may be found *Horse-powers and Threshing Machines, Grain and Seed Fans* of various patterns. *Corn-shellers* in variety. Hay, Straw, and Corn-stalk Cutters, eight different patterns, from $4 50 to $30. Corn-stalk Cutters and Grinders—Churns—Cheese-presses, &c. *Centre-draught Ploughs* of eight sizes. Bill-hooks—Bramble Scythes—Grubbing Hoes—Axes and handles—Hatchets—Potatoe Hooks—complete sets of instruments for making capons.

Garden, Grass, Flower and *Field seeds*, warranted fresh and true to name. D. O. Prouty.

Agricultural Implement Manufactory,

No. 196, Market street, two doors above Sixth street, and two doors below the Red Lion Hotel:

Where are manufactured and for sale, lower than can be purchased elsewhere, Horse Powers and Threshing Machines, Fanning Mills, Corn Shellers, Straw and Hay Cutters, Horse Rakes, Ploughs, Harrows, Cultivators, Seed Planters, Cheese Presses, Churns, Pumps, and every kind of farming implement generally in use. Also, Beach's Self-sharpening Plough and castings—and Wiley's two-pointed do. Every description of implement made to order, or repaired by experienced workmen, and warranted. Slater's Patent Corn Sheller and Grinder. EDWIN CHANDLER,

Agent for Agricultural Machines of every description.

The quantity of rain which fell during the Seventh month, (July,) 1844, was a little more than five inches and a quarter. ..... 5.284 inches.

Penn. Hospital, 8th mo., 1st.

On our 31st page, will be found a list of premiums offered by our spirited friends in Newcastle co., Delaware, at their Annual Exhibition next month. They anticipate high gratification from the Address to be delivered by J. S. Skinner.

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Joseph Rakestraw, Printer.